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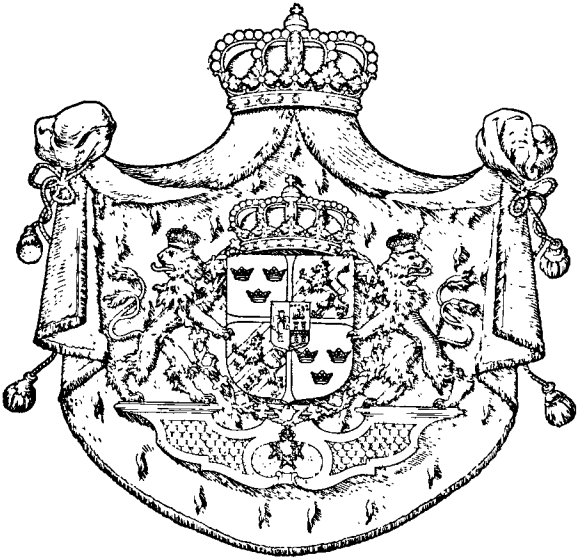
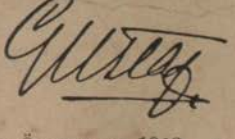
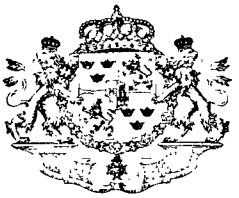




After a painting by EMIL ÖSTERMAN, 1913. Royal Palace, Stockholm.

SWEDEN



SWEDEN

HISTORICAL AND STATISTICAL HANDBOOK

BY ORDER OF THE SWEDISH GOVERNMENT
EDITED BY

J. GUINCHARD

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SECOND EDITION

ENGLISH ISSUE

FIRST PART

LAND AND PEOPLE

STOCKHOLM
GOVERNMENT PRINTING OFFICE. P. A. NORSTEDT & SÖNER
1914
[133179]

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PREFACE.

The first edition of this handbook, "Sveriges land och folk", was published during the years 1898—1904; the cost was, in the main, defrayed by a grant from the Riksdag. The Swedish Central Bureau of Statistics was commissioned to carry out the work, and that body entrusted the editorship to Dr Gustav Sundbärg, then Section Chief in the Bureau, later professor at the University of Uppsala. Three issues of the work were published: a French one, principally in view of the Paris Universal Exposition of 1900, a Swedish one in 1901, and an English one in 1904.

A motion moved by K. A. Tengdahl, in the Riksdag of 1910, as to the advisability of bringing out a new edition, resulted in representations being made to the Government that the matter should be taken under consideration. The Central Bureau of Statistics was commissioned to deliberate the matter, and on Aug. 29th, 1911, the Bureau reported that a new edition was desirable.

After the Board of Trade, the Professors' Council of the High School of Commerce in Stockholm, the Committee for the 1914 Baltic Exhibition at Malmö, and the Commercial Council had all expressed themselves to the effect that a new edition was desirable, the Government proposed to the Riksdag of 1912 the publication of a new edition of the handbook in two issues, a Swedish one and an English one.

In the same Riksdag of 1912, too, the question was brought forward of a German issue, chiefly in view of the 1914 Baltic Exhibition at Malmö, and the Riksdag resolved to make a State grant for producing Swedish, English, and German issues of the handbook. — The economic basis of the work has subsequently been widened by generous contributions and interested support of a number of private persons and institutions, among others, Consul General Axel Ax:son Johnson and Consul Helge Ax:son Johnson, of

Stockholm, who have generously donated liberal contributions; and the printing office, Norstedt & Söner — the publishers of the whole work — who have effectively promoted the publication of the handbook in a complete and appropriate form.

By a Royal Command, issued under the date of October 6th, 1912, the undersigned was commissioned as Editor-in-Chief to undertake the work of publishing the new edition, under such direction as should be afforded by the Minister of Finance; the Editor was empowered to apply directly to those in authority at the various State Offices for any information that might be considered necessary for the execution of his task. On the application of the Editor that he might be afforded the opportunity of consulting with experts in the various questions with which the handbook deals, the Minister of Finance called in a considerable number of specialists, who should afford advice and information, and, where necessary, make suggestions as to the planning of the work. Further, they were to advise on the choice of authors, and on other matters which affected the preparation of those parts of the work that fell within their respective provinces.

As the first edition of the handbook had been published in French and English translations, the primary object was to produce a German issue — principally in view of the Baltic Exhibition — by the beginning of the year 1914. By securing the collaboration of some hundreds of authors, and by taking other appropriate measures, the Editor was successful in carrying out the plan laid down, so that the German issue was ready for distribution at the beginning of May, 1914. The original plan was for the Swedish issue to be brought out next, and the English issue last; but, on the representations of the Swedish Executive Committee appointed to arrange and organize the participation of Sweden in the Panama Pacific International Exposition, San Francisco, 1915, the Government had commanded that a certain number of copies of the English issue should be placed at the disposal of the Executive Committee, and that, for this purpose, the work should be reorganized with the object of hastening the production of the English issue, by giving it precedence to the Swedish issue. And by means of pushing forward the work as rapidly as possible, the Editor has, in a great measure, succeeded in achieving this object, despite some complications resulting from the general political situation and other circumstances.

The authors whose services were relied upon for the first edition of the book were requested, in most cases, to revise their articles for this edition,

and the majority acceded to this request. On account of deaths and other causes, however, the staff of authors has been subject to considerable and continuous changes, besides which a considerable increase in the staff has been rendered necessary by the above-mentioned necessity of gaining time by distributing the work among a large number of workers, and by the circumstance that new questions had arisen, which required treatment in the book.

The great changes in the economic and cultural life of Sweden, which characterize the last decade, have necessitated a very thorough revision of most of the articles of the first edition, and some of the authors have preferred entirely to re-write the articles entrusted to them.

As the final revision preceding the printing of the English issue had been already finished during the course of 1914, with respect to certain parts of the work — it has not been possible to revise the various parts in regular order — and as the statistical data have only become available at very different times, the statistics in the different articles suffer from some inconsistency as regards the years for which the latest returns are given. However, all returns involving figures, as well as other data, the Editor has endeavoured to bring up to date, as far as circumstances have allowed in each particular case. The insertion of new figures and data, which have come to hand at later stages of the editorial work, have of necessity had to be left over till the next (Swedish) issue, in order to ensure the publication of the work within the prescribed time. As this work, however, does not aim at being an up-to-date statistical year-book, but a handbook giving a cross-sectional view of the economic and cultural life of Sweden, the circumstances here referred to should not affect the general scope of the work.

Special attention has still been paid to the illustrations, in the selection of which the Editor has had the benefit of the advice of the respective authors and experts. By replacing some of the older illustrations by new ones, the Editor has endeavoured to present a faithful and characteristic pictorial idea of the subject under treatment, so far as considerations of space and expense have allowed.

The thorough revision of the first edition and the addition of new articles rendered necessary by the advancing development of the country, as well as the increased number of illustrations — consisting in no small measure of maps and diagrams — has had as a result that the present edition has grown considerably in bulk, compared with the first English issue (comprising 1 154 pages). As one of the more note-

worthy additional features, the Editor wishes to draw attention to the Bibliography at the end of the book, giving, although designedly summarily, a survey of the more important literature on Sweden published in foreign languages.

Since the work is in the main composed of contributions from a very considerable number of different authors, as has been indicated above, the arrangement, scope, and form of the different articles have been somewhat uneven, and it has naturally not been possible completely to avoid overlapping in certain cases. Hence, in working together the different articles, the Editor has been obliged to do a certain amount of revision, in some cases revision of rather a radical nature. Although this revision-work has naturally been undertaken, as far as possible, after consultation with the respective authors and experts, the Editor does not wish to neglect to emphasize the responsibility that must rest on him alone. The same remark applies to the exclusion from the English translation of a number of details that have their chief interest for readers of the Swedish edition. For the accuracy of the information, however, the authors themselves are, in the first place, responsible.

With the object, too, of securing a proper proportion between the space allotted to the separate parts of the work, the Editor has continued the equalization work already commenced in the German issue, a process which, however, owing to the rather short time at disposal for publishing and to other circumstances, has been difficult to carry through completely in this issue.

Now, when the second edition of the work leaves the press in its second issue — the English one —, it is the duty of the Editor once more to express his acknowledgements, in the first place, to the work of the prime mover in the production of the first edition, the late Professor Gustav Sundbärg, deceased in November, 1914. Although he has not personally collaborated in the bringing out of this edition, he has, thanks to the sound and sure principles he once for all laid down for the whole work, afforded great assistance in overcoming the difficulties that never fail to present themselves in the production of a work like the present one. Further, the Editor wishes to express his thanks to the authors, not least for the obligingness which they have shown in working at the high pressure that was necessary in order to issue the work within the prescribed time; to the experts, whose readiness to assist with advice and practical help cannot be overrated; to the editorial and translating

staffs, who have not shrunk from working under what was often very great stress; and, finally, to the printing-house, to whose technical resources it is ultimately due that it has been possible to issue the work as early as has now been done.

Stockholm, December, 1914.

J. Guinchard.

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Editorial Staff, Authors, Translators, etc.

(The translations of titles and names of institutions are, as a rule, rendered in conformity with the Swedish terminology. It should be observed that a Swedish "High School" generally corresponds to an educational establishment of university rank. — "Lic." signifies Licentiate, and corresponds to the final university degree (taken before the title of Doctor can be gained). — A national, central State board or institution has, as a rule, the epithet "Royal". — Some noteworthy changes in the titles etc., which have come about during the printing of the work, have been inserted.

Editor-in-Chief.

(Commissioned by the Swedish Government).

Guinchard, J., Ph. D., Director of the Municipal Bureau of Statistics of Stockholm.

Experts.

(Commissioned by the Minister of Finance).

Andersson, Gunnar, Ph. D., Professor at the High School of Commerce in Stockholm.

Balck, V. G., Major-General, Stockholm.

Ekstrand, A. G., Ph. D., late Chief Engineer at the Royal Control Board, Stockholm.

Elmquist, H., Ph. D., Director General of the Royal Social Board, Stockholm.

Fahlbeck, P., LL. D., Ph. D., Professor at the Royal University of Lund.

Flach, W., Director-in-Chief of the Royal Board of Agriculture, Stockholm.

Fredenberg, K., Director General of the Royal Board of Crown Lands, Stockholm.

Heckscher, Eli F., Ph. D., Professor at the High School of Commerce in Stockholm.

Huss, G., Ph. D., Bureau Chief at the Royal Social Board, Stockholm.

Höjer, T., Ph. D., Bureau Chief at the Royal State Department for Foreign Affairs, Stockholm.

Laurin, Carl G., Author, Stockholm.

Lindström, P. E., Ph. D., ex-Minister for Ecclesiastical Affairs, Stocksund, Stockholm.

Lundstedt, B., Ph. D., First Librarian at the Royal National Library († 1914).

Retzius, G., M. D., Ph. D., em. Professor, Stockholm.

Rosman, H., Ph. D., Secretary of the Chamber of Commerce of Stockholm.

Sahlin, C., Mining Engineer, Managing Director of the Laxå Iron Works.

Westman, K. G., Ph. D., Professor at the Royal University of Uppsala, Minister for Ecclesiastical Affairs (since 1914), Stockholm.

Some of the commissioned experts have also collaborated as authors of certain articles and have assisted in the editorial work on certain main sections. For further particulars, see the List of Authors and the Table of Contents, below.

In the editorial work have assisted:

During the whole of the work:

Larsson, G. Adolf, Amanuensis at the Municipal Bureau of Statistics of Stockholm, *Secretary.*
Ekdahl, Stina, Assistent at the Municipal Bureau of Statistics of Stockholm, *in charge of the proof-reading and control work.*

In connection with particular articles:

Andersson, Theofil, Ph. D., Bureau Chief at the Royal Social Board, Stockholm.
Asproth, J., Actuary at the Municipal Bureau of Statistics of Stockholm.
Bjurstedt, E., Actuary at the Royal Social Board, Stockholm.
Byström, A. H., Colonel, on duty at the State Ordnance Survey, Stockholm.
Curman, S., Ph. D., Professor at Royal High School of Arts, Stockholm.
Dahlgren, E. W., Ph. D., Librarian-in-Chief of the Royal National Library, Stockholm.
Dillner, G., Mining Engineer, e. Bureau Chief at the Royal Board of Trade, Stockholm.
Eneborg, H., Amanuensis at the Municipal Bureau of Statistics of Stockholm.
Funkquist, H., Lector at the State Agricultural High School at Alnarp.
Gavelin, A., Ph. D., acting Director of the State Geological Survey of Sweden, Stockholm.
Juhlin Dannfelt, H., Ph. D., Professor, Secretary of the Royal Academy of Agriculture, Stockholm.
Järte, O., Actuary at the Royal Social Board, Stockholm.
Lagerstedt, N. G. W., Ph. D., late Member of the Royal Board of Secondary Schools, Stockholm.
Larson, Alf., C. E., Consulting Engineer, Stockholm.
Leijonhufvud, Sten S., Baron, First Actuary at the Municipal Bureau of Statistics of Stockholm.
Lilienberg, A., Ph. Lic., Editor of the Industrial Statistics Investigations of the Royal Board of Trade, Stockholm.
Mannström, O., Editor, Stockholm.
May, J., Director-in-Chief of the State Insurance Office, Stockholm.
Melander, E., Colonel, Director of the State Ordnance Survey, Stockholm.
Moosberg, R., Actuary at the Municipal Bureau of Statistics of Stockholm.
Münter, R., Clerk at the Lifförsäkringsaktiebolaget Thule, Stockholm.
Själander, V., Actuary at the Municipal Bureau of Statistics of Stockholm.
Thörnberg, E. H., Author, Stockholm.
Wallner, J., Ph. Lic., e. Actuary at the Royal State Department for Ecclesiastical Affairs, Stockholm.
Wiklund, K. B., Ph. D., Professor at the Royal University of Uppsala.
Zeipel, H., von, acting Actuary at the Royal Board of Trade, Stockholm.
Åmark, K., Ph. D., Actuary at the Royal Board of Trade, Stockholm.

Further, a number of assistants have been engaged upon the *proof-reading and control work.*

Authors.

Besides the names of the authors who have especially collaborated in the production of this edition, there are also included below those of authors whose articles have been retained practically without alteration from the first edition, and also those of a number of authorities who have provided the material for various articles written by the editorial staff. See, further, Table of Contents.

Adde, G., Ph. Lic., Librarian at the Royal National Library, Stockholm.
Ahlström, A., Principal of the Gothenburg Commercial Institute.
Aldén, G. A., Author, Stockholm.
Almgren, O., Ph. D., Professor at the Royal University of Uppsala.
Almquist, V., Director-in-Chief of the Royal Board of Prisons, Stockholm.
Almström, H., C. E., Managing Director of the Rörstrand Pottery Factories, Stockholm.
Ambrosius, J. M., Ph. D., late Elementary School Inspector, Gothenburg.
Améen, L., Member of the High Court of Justice, Stockholm.
Andersson, Gunnar, Ph. D., Professor at the High School of Commerce in Stockholm (cf. above).
Andersson, Theofil, Ph. D., Bureau Chief at the Royal Social Board, Stockholm (cf. above).
Anrep-Nordin, Elisabeth, Mrs, Directress of the Queen Sophia Foundation, Vänersborg.
Arosenius, E., Ph. D., First Actuary at the Royal Central Bureau of Statistics, Stockholm.
Asproth, J., Actuary at the Municipal Bureau of Statistics of Stockholm (cf. above).
Balck, V. G., Major-General, Stockholm (cf. above).
Berencreutz, A., Chamberlain, Swedish Consul General, London.
Berg, J., M. D., Professor at the Royal Caroline Medico-Surgical Institute, Stockholm.
Bergsten, Carl G., Architect, Stocksund, Stockholm.
Bergström, E., Ph. Lic., Uppsala.
Björling, C. G. E., LL. D., Professor at the Royal University of Lund.
Björling, J. S., Principal of the State Navigation School in Stockholm.
Blomquist, K., Director of the State Reformatory at Bona.
Blumenthal, M., M. Lic., Physician, Stockholm.
Bohlin, Karl, Ph. D., Professor, Astronomer to the Royal Academy of Sciences, Stockholm.
Bonthron, Alice, Mrs, Directress of the Association for the Aid of the Disabled, Gothenburg.
Boström, H., Director of the Municipal Reform School at Skrubba, Stockholm.
Brisman, S., Ph. D., Docent at the High School of Commerce in Stockholm.
Brulin, H., Ph. D., Recorder at the State National Record Office, Stockholm.
Bugge-Wicksell, Anna, Mrs, Secretary of the Swedish Peace Federation, Lund.
Buhre, B., M. D., Director General of the Royal Medical Board, Stockholm.
Byström, A. H., Colonel, on duty at the State Ordnance Survey, Stockholm (cf. above).
Dahlström, Hj., Professor at the State Veterinary High School, Albano, Stockholm.
Dalin, A., Member of the Royal Board of Elementary Schools, Stockholm.
Edin, K. A., Ph. D., acting Professor at the Royal University of Uppsala.
Ekenstam, C. Th. af, District Judge, Hösterum, Söderköping.
Ekholm, N., Ph. D., Professor, Director of the State Central Meteorological Office, Stockholm.
Ekstrand, A. G., Ph. D., late Chief Engineer at the Royal Control Board, Stockholm (cf. above).
Elmquist, H., Ph. D., Director General of the Royal Social Board, Stockholm (cf. above).

Engströmer, Th., LL. D., Professor at the Royal University of Uppsala.
Enström, A., Ph. Lic., C. E., Consulting Engineer, Stockholm.
Erdmann, E., Ph. D., late State Geologist, Stockholm.
Fahlbeck, P., LL. D., Ph. D., Professor at the Royal University of Lund (cf. above).
Fant, F., Director of the Hall Farm Reformatory, Södertälje.
Feilitzen, Hj. von, Ph. D., Director of the Swedish Moor Culture Association, Jönköping.
Fellenius, V., C. E., Professor at the Royal Technical High School, Stockholm.
Flach, W., Director-in-Chief of the Royal Board of Agriculture, Stockholm (cf. above).
Flodström, I., Actuary at the Royal Board of Trade, Stockholm.
Folcker, E. G., Intendant at the National Museum, Stockholm.
Fries, Karl, Ph. D., Secretary of the Y. M. C. A., Stockholm.
Friesen, O. von, Ph. D., Professor at the Royal University of Uppsala.
Funkquist, H., Lector at the State Agricultural High School at Alnarp (cf. above).
Gauffin, A., Ph. D., Amanuensis at the National Museum, Stockholm.
Granqvist, P. G. D., Ph. D., Professor at the Royal University of Uppsala.
Grönfeldt, S., Ph. Lic., Librarian at the Royal National Library, Stockholm.
Guinchard, J., Ph. D., Director of the Municipal Bureau of Statistics of Stockholm, Editor-in-Chief of this handbook (cf. above).
Gyllenberg, C. E., C. E., Bureau Engineer at the Royal Engineering Board, Stockholm.
Halling, E., Statistician to the Royal Telegraph Board, Stockholm.
Hammarskjöld, Hj., LL. D., Governor of Uppsala Län, Prime Minister (since 1914), Stockholm.
Hamnell, T., Auditor at the Royal Railway Board, Stockholm.
Hansen, F. V., Director-in-Chief of the Royal Board of Waterfalls, Stockholm.
Hansson, Nils, Professor, State Central Establishment for Agricultural Experiments, Experimentalfältet, Stockholm.
Heckscher, Eli F., Ph. D., Professor at the High School of Commerce in Stockholm (cf. above).
Hedberg, F., Author († 1908).
Hedelin, J. B., Lector at the State Agricultural High School at Alnarp.
Hedrén, T., Secretary at the Royal Navy Board, Stockholm.
Heidenstam, E. von, Major, Stockholm.
Henschen, S. E., M. D., Ph. D., em. Professor, Stockholm.
Hesselman, H., Ph. D., Professor at the State Forestry Experimental Establishment, Stockholm.
Heyman, V., Bureau Chief at the Royal Board of Agriculture, Stockholm.
Hildebrand, E., Ph. D., Recorder-in-Chief of the State National Record Office, Stockholm.
Hildebrand, K., Ph. D., late Editor, Author, Stockholm.
Hofsten, N. von, Ph. D., Docent at the Royal University of Uppsala.
Holmström, L., Ph. D., late Director of the People's High School at Vilan.
Hult, H., Colonel and Deputy Chief Commander of the Royal Svea Life Guards, Stockholm.
Hultkrantz, V., M. D., Professor at the Royal University of Uppsala.
Hultman, I., Statistician to the Bank of Sweden, Stockholm.
Huss, G., Ph. D., Bureau Chief at the Royal Social Board, Stockholm (cf. above).
Högdahl, T., Author, Secretary of the Swedish Association for Preserving Natural Scenery, Stockholm.
Juhlin Dannfelt, H., Ph. D., Professor, Secretary of the Royal Academy of Agriculture, Stockholm (cf. above).
Järte, O., Actuary at the Royal Social Board, Stockholm (cf. above).
Kjellberg, K., M. D., Professor at the Royal High School of Arts, Stockholm.

Kjellgren, S. E. A., C. E., Managing Director of the Reijmyre Glass Works.
Kjerrulf, G., M. D., Member of the Royal Medical Board, Stockholm.
Klason, P., Ph. D., em. Professor, Stockholm.
Koch, G. H. von, Editor of the "Social Tidskrift", Stockholm.
Lagerstedt, N. G. W., Ph. D., late Member of the Royal Board of Secondary Schools, Stockholm, (cf. above).
Lagerwall, A., Ph. D., Elementary School Inspector, Gothenburg.
Lamm, Alfhild, Miss, Stockholm.
Landin, J., C. E., Public Analyst, Stockholm.
Larson, Alf., C. E., Consulting Engineer, Stockholm, (cf. above).
Larsson, G. Adolf, Amanuensis at the Municipal Bureau of Statistics of Stockholm, (cf. above).
Laurin, Carl G., Author, Stockholm, (cf. above).
Leffler, J. A., Mining Engineer, Engineer at the Iron Institute, Stockholm.
Levertin, A., M. D., Docent at the Royal Caroline Medico-Surgical Institute, Stockholm.
Lind, G., Garden Director of the Royal Academy of Agriculture, Experimentalfältet, Stockholm.
Lindström, P. E., Ph. D., ex-Minister for Ecclesiastical Affairs, Stocksund, Stockholm (cf. above).
Ljunggren, C. J. F., v. Consul, Kristianstad.
Looström, L., Ph. D., late Intendant-in-Chief of the State National Museum, Stockholm.
Lundahl, N., Lecture Expert to the Department for Ecclesiastical Affairs, Stockholm.
Lundgren, R., First Actuary at the Royal Post-Office Board, Stockholm.
Lundstedt, B., Ph. D., First Librarian at the Royal National Library († 1914) (cf. above).
Lönnberg, E., Ph. D., Professor, Intendant of the State National Museum of Natural History, Stockholm.
Marcus, M., Ph. D., First Actuary at the Royal Social Board, Stockholm.
Modig, E., Ph. Lic., Secretary at the Royal Board of Trade, Stockholm.
Molin, A., Ph. D., Secretary of the National Association against Emigration, Stockholm.
Molin, G., C. E., Stockholm.
Molin, J. A. E., Secretary at the Royal Social Board, Stockholm.
Montelius, Agda, Mrs, Inspector of the Charity Organization Society (F. V. O.), Stockholm.
Moosberg, R., Actuary at the Municipal Bureau of Statistics of Stockholm, (cf. above).
Nanneson, L., Principal of the Farmers' School at Vilan.
Nilsson, Hj., Ph. D., Professor, Director of the Cultivation Establishment of the Swedish Seed Association, Svalöv.
Nilsson, J. A., Ph. D., Docent at the Royal University of Lund.
Nordenskiöld, G. H., Managing Director of the Skånska Cementaktiebolaget, Malmö.
Nordenskjöld, O., Ph. D., Professor at the University of Gothenburg.
Nordensvan, G., Author, Stockholm.
Nordfelt, A., Ph. D., Principal of the State Secondary School at Uppsala.
Nordin, F., Principal of the Deaf and Dumb School at Vänersborg.
Nordqvist, O., Ph. D., Bureau Chief at the Royal Board of Agriculture, Stockholm.
Nyblom, C. R., Ph. D., Professor († 1907).
Nyström, B., Ph. Lic., First Actuary at the Royal Social Board, Stockholm.
Odén, S., acting First Actuary at the Royal Central Bureau of Statistics, Stockholm.

Oseen, C. W., Ph. D., Professor at the Royal University of Uppsala.
Palmær, V., Ph. D., Professor at the Royal Technical High School, Stockholm.
Palme, S., Managing Director of the Lifförsäkringsaktiebolaget Thule, Member of the Court of Directors of the Bank of Sweden, Stockholm.
Petersson, Ingemar, Captain in the Royal Engineering Corps, Stockholm.
Petersson, Valfrid, Ph. D., Professor at the Royal Technical High School, Principal of the High School of Mines, Stockholm.
Petrén, A., M. D., State Inspector-in-Chief of the Lunatic Asylums of the Kingdom, Stockholm.
Petrén, J. G., Ph. D., Professor at the Royal Technical High School, Stockholm.
Rahm, Nils, C. E., Bureau Chief at the Royal Patents and Registration Office, Stockholm.
Ramstedt, V., Ph. D., Stockholm.
Raphael, A., Ph. D., Author, Stockholm.
Retzius, Anna Hierta-, Mrs, Honorary President of the Central Committee for Workshops for Children in Stockholm.
Retzius, G., M. D., Ph. D., em. Professor, Stockholm (cf. above).
Rinman, E. B., Chief Editor of the "Stockholmstidningen", Stockholm.
Rosén, N., Elementary School Teacher, Genarp.
Rosman, H., Ph. D., Secretary of the Chamber of Commerce of Stockholm (cf. above).
Rydin, A., Ph. Lic., Secretary at the Royal Social Board, Stockholm.
Sahlin, C., Mining Engineer, Managing Director of the Laxå Iron Works (cf. above).
Salin, B., Ph. D., State Antiquary-in-Chief, Stockholm.
Santesson, C. G., M. D., Professor at the Royal Caroline Medico-Surgical Institute, Stockholm.
Schéele, F. von, Ph. D., Professor, First Elementary School Inspector, Stockholm.
Sederholm, G., Landed Proprietor, Ålberga.
Sellén, N., Major, Professor, Director of the State Central Gymnastic Institute, Stockholm.
Sellergren, G., C. E., Professor at the Royal Technical High School, Stockholm.
Sernander, R., Ph. D., Professor at the Royal University of Uppsala.
Själander, V., Actuary at the Municipal Bureau of Statistics of Stockholm (cf. above).
Sjöstrand, E., Ph. D., First Actuary at the Royal Social Board, Stockholm.
Smith, E. A., late District Chief of the Royal Pilot Service, Stockholm.
Starbäck, K., Ph. D., Lector at the State Secondary School at Gävle.
Starenow, L., Ph. D., Professor at the Royal University of Uppsala.
Steffen, G. F., Ph. D., Professor at the University of Gothenburg.
Steffen, R., Ph. D., Principal of the State Secondary School at Visby.
Sundbärg, F., City Architect († 1913).
Sundbärg, G., Ph. D., Professor at the Royal University of Uppsala, Editor-in-Chief of the first edition of this handbook († 1914).
Svedmark, E., Ph. D., late State Geologist, Stockholm.
Svenonius, F., Ph. D., State Geologist, Stockholm.
Svensén, E., Author, Stockholm.
Söderbaum. H. G., Ph. D., Professor, Central Establishment for Agricultural Experiments, Experimentalfältet, Stockholm.
Söderberg, E., Ph. D., late First Actuary at the Royal Central Bureau of Statistics, Stockholm.
Söderblom, S. A., Ph. D., Professor at the Chalmer's Polytechnical College, Gothenburg.
Thomé, L. G., Ph. D., Master at the State Agricultural High School at Alnarp.
Thulin, Einar J:son, Amanuensis at the Royal Social Board, Secretary of the State Temperance Committee, Stockholm.
Tjerneld, J., Barrister-at-Law, Stockholm.

Trybom, F., Ph. D., Bureau Chief at the Royal Board of Agriculture († 1913).
Tullberg, T., M. D., Ph. D., em. Professor, Uppsala.
Unger, A., Under-Secretary of State, Royal Navy State Department, Stockholm.
Uppling, M., Secretary at the Royal Telegraph Board, Stockholm.
Valentin, K., Ph. D., Professor, Secretary of the Royal Academy of Music, Stockholm.
Velander, J. P., Author, Director of the Printing Department of the Riksdag, Stockholm.
Vestergren, J., C. E., Managing Director of the Paper Mill of the Bank of Sweden, Tumba.
Vetterlund, F., Ph. D., Author, Docent at the University of Stockholm.
Vilke, A., Director of the Seed Control Office of Malmöhus Län, Lund.
Wahlgren, A., Professor, Principal of the State High School of Forestry, Stockholm.
Wahlström, Lydia, Ph. D., Girls' Secondary School Principal, v. President of the Fredrika Bremer Society, Stockholm.
Wallén, A., Ph. D., Director of the State Hydrographical Bureau, Stockholm.
Wallenius, I. A., Solicitor, Stockholm.
Waller, C. E., M. Lic., Chief Physician at the Hålahult Sanatorium.
Wallis, C., M. D., em. Professor, Stockholm.
Wallroth, K. A., Mining Engineer, Director of the Royal Mint, Stockholm.
Weibull, M., Ph. D., Professor, Principal of the State Agricultural High School at Alnarp.
Welin, G., Traffic Director on the State Railways, Stockholm.
Westman, K. B., D. D., Docent at the Royal University of Uppsala.
Westman, K. G., Ph. D., Professor at the Royal University of Uppsala, Minister for Ecclesiastical Affairs (since 1914), Stockholm (cf. above).
Wetter, F. P:son, LL. D., Professor at the Royal University of Uppsala.
Wetterlund, K. G., Official at the Royal Board of Customs, Stockholm.
Wibelius, O., Secretary of the Municipal Board of Elementary Schools of Stockholm.
Wide, A., M. D., Professor, Director of the Gymnastic-Orthopedic Institute, Stockholm.
Wieselgren, O., Ph. D., Librarian at the Royal National Library, Stockholm.
Wigelius, A., Secretary of the Forestry Society, Gothenburg.
Wiman, A., Ph. D., Professor at the Royal University of Uppsala.
Winberg, H. L. O., Ph. D., Professor, late Principal of the State Agricultural High School at Alnarp.
Wincrantz, K. F., C. E., Managing Director of the Aktiebolaget Stockholmstelefon.
Wingborg, F. A., Editor, President of the Stockholm Society for the Protection of Animals.
Wirén, A., Chaplain, Stockholm.
Wrangel, H., Major-General, Chief Commander of the Royal Coast Artillery, Stockholm.
Zeipel, H. von, acting Actuary at the Royal Board of Trade, Stockholm (cf. above).
Åmark, K., Ph. D., Actuary at the Royal Board of Trade, Stockholm (cf. above).
Åsbrink, G., Editor, Gothenburg.
Åstrand, G., Principal of the State Institute for the Blind at Tomteboda, Stockholm.
Öhrvall, Hj., M. D., Professor at the Royal University of Uppsala.
Örtenblad, Th., Bureau Chief at the Royal Board of Crown Lands, Stockholm.
Östberg, Ragnar, Architect, Stockholm.

Linguistic Experts and Translators:

Linguistic Expert for the main part of the work:

Charleston, Sydney, M. A., Lector in English at the Royal University of Uppsala.

Linguistic Experts and Translators for particular articles:

Adams-Ray, E., Lecturer and Translator, Stockholm.
Allen, E. P., Translator, Stockholm.
Fearenside, C. S., M. A., Lector in English at the High School of Commerce in Stockholm.
Fuhrken, G. E., Ph. D., M. A., e. Lector in English at the University of Gothenburg.
Grove, Grenville, Archivist at the British Legation, Stockholm.
Harlock, W. E., M. A., Lector in English at the High School of Commerce in Stockholm.
Järte, O., Actuary at the Royal Social Board, Stockholm (cf. above).
Lundberg, Hj., Clerk at the National Association against Emigration, Stockholm.
Martin, L. C., M. A., Lector in English at the Royal University of Lund.
Sampson, George F., Official at the British Legation, Stockholm.
Savage, W., Translator, Stockholm.
Sjöstrand, E., Ph. D., First Actuary at the Royal Social Board, Stockholm (cf. above).
Thörnberg, E. H., Author, Stockholm (cf. above).
Wackrill, Ellen G., Teacher of English, Stockholm,
and others.

Furthermore, most of the authors and a number of other experts have kindly assisted the Editor with suggestions and advice in the matter of terminology, etc.

EXPLANATIONS.

The Weights and Measures employed in the present work are, as a rule, those of the **Metric System.**

Sweden	*Great Britain and Ireland*	*America*
1 meter (*m*)	3·281 feet	3·281 feet
1 kilometer (*km*) = 1 000 meter (*m*)	0·621 mile	0·621 mile
1 hectare (*har*) = 100 ares (*ar*)	2·47 acres	2·47 acres
1 sq. kilometer (*sq. km*)	0·386 sq. mile	0·386 sq. mile
1 cubic meter (*cub. m*)	35·32 cubic feet	35·32 cubic feet
1 liter (*l*)	0·2201 imp. gallon	0·2271 Winchester lon (dry measure)
1 liter (*l*)	—	0·2642 old wine gallon (fluid measure)
1 hectoliter (*hl*) = 100 liters (*l*)	22·01 imp. gallons	22·71 Winchester gallons (dry measure)
1 hectoliter (*hl*)	—	26·42 old wine gallons (fluid measure)
1 hectoliter (*hl*)	2·75 bushel	2·84 bushels
1 kilogram (*kg*)	2·204 lbs	2·204 lbs
1 quintal (*q*) = 100 kg	220·4 lbs	220·4 lbs
1 ton = 1 000 kg	2 204 lbs	1·102 short ton

A *register ton* = 100 Eng. cubic feet = 2·832 cub. m.

The Swedish monetary unit is the **Krona** (plur. Kronor) = 100 *öre*. The Swedish Krona is equivalent to 1·10 shillings or 0·268 dollar. It also corresponds to 0·667 Dutch Guilder, 1·124 German Marks, 1·32 Austrian Kronen, 1·39 Francs, and 0·52 Russian Rouble.

By **Western Europe** is invariably meant the Germanic and Romanic countries of the continent, inclusive of Finland. By **Eastern Europe** is meant Galicia and Bukowina, Hungary, Russia (exclusive of Finland), and the Balkan peninsula.

The relation **per cent** is indicated by %, that of **per mille,** ‰. A point (.) instead of a figure in a table indicates that no data are available.

Other abbreviations and symbols used will be intelligible without special explanation.

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I.

PHYSICAL GEOGRAPHY.

The Kingdom of Sweden occupies the eastern and larger section of the *Scandinavian Peninsula,* which is situated in the north-west of Europe. Of the total area of this Peninsula — about 770 000 sq. km — Sweden embraces about **448 000 sq. km** (173 000 sq. miles) or approximately 58 %, and of its total population (1912), which is about 8 millions, **5·6 millions** i. e. roughly 70 % live in Sweden.[1]

Sweden, covering as it does 4·7 % of the area of Europe, is one of the largest countries of that continent. It is a little smaller than either France or the German Empire but, on the other hand, it is nearly half as large again as Great Britain and Ireland. In respect to *population* Sweden contains nearly as many people as Belgium, but exceeds Switzerland for example by more than 60 %.

Owing to its northerly situation the Scandinavian Peninsula is as a whole thinly populated, though less so than any other country lying in the same latitude. In respect to the state of agriculture and the density of population the southernmost parts of Sweden may be compared with Central Europe.

Sweden is bounded on the East, South and in part also on the West by an inland sea and its various arms: the Gulf of Bothnia, the Baltic Sea, the Sound, the Kattegat and the Skagerrak. Its land boundaries are those dividing it from Finland and Norway. The remarkable ethnographical uniformity characterizing Sweden as a nation is paralleled, in some measure, by the advantageous character on the whole of its geographical boundaries.

More definitely stated, Sweden is situated between 55° 20′ and 69° 4′ N Lat., and between 10° 58′ and 24° 10′ Long. East of Greenwich. The latitude of the Stockholm Observatory is 59° 20′ 32·6″; of the Uppsala Observatory 59° 51′ 29·4″ and of the Lund Observatory 55° 41′ 52″. The difference in time

[1] Cf. State of California, U. S. A., *area:* 410 000 sq.km; *population:* 2·6 mill. (approx. 1912).

TABLE 1. *The Areas of the Läns of Sweden in 1913.*

Län	Area in Square Kilometers		
	Land	Water	Total
Stockholm (Urban Area)	107·65	5·78	**113·43**
Stockholm (Län)	7 414·07	349·03	**7 763·10**
Uppsala	5 120·87	192·44	**5 313·31**
Södermanland	6 237·55	573·51	**6 811·06**
Östergötland	9 968·39	1 077·56	**11 045·95**
Jönköping	10 616·88	905·14	**11 522·02**
Kronoberg	8 906·66	1 003·21	**9 909·87**
Kalmar	10 961·97	581·04	**11 543·01**
Gottland	3 117·94	41·84	**3 159·78**
Blekinge	2 895·71	119·02	**3 014·73**
Kristianstad	6 242·80	213·25	**6 456·05**
Malmöhus	4 726·20	106·55	**4 832·75**
Halland	4 771·34	149·92	**4 921·26**
Göteborg och Bohus	4 895·59	151·57	**5 047·16**
Älvsborg	11 677·91	1 050·72	**12 728·63**
Skaraborg	8 074·96	405·41	**8 480·37**
Värmland	17 548·67	1 774·86	**19 323·53**
Örebro	8 343·23	791·26	**9 134·49**
Västmanland	6 397·84	309·78	**6 707·62**
Kopparberg	28 185·67	1 743·45	**29 929·12**
Gävleborg	18 197·82	1 530·18	**19 728·00**
Västernorrland	24 127·97	1 404·54	**25 532·51**
Jämtland	47 611·96	3 943·54	**51 555·50**
Västerbotten	55 570·87	3 363·47	**58 934·34**
Norrbotten	98 660·09	6 860·20	**105 520·29**
Lake Vänern		5 546·15	**5 546·15**
» Vättern		1 898·52	**1 898·52**
» Mälaren		1 149·11	**1 149·11**
» Hjälmaren		479·74	**479·74**
The whole Kingdom	**410 380**·61	**37 720**·79	**448 101**·40

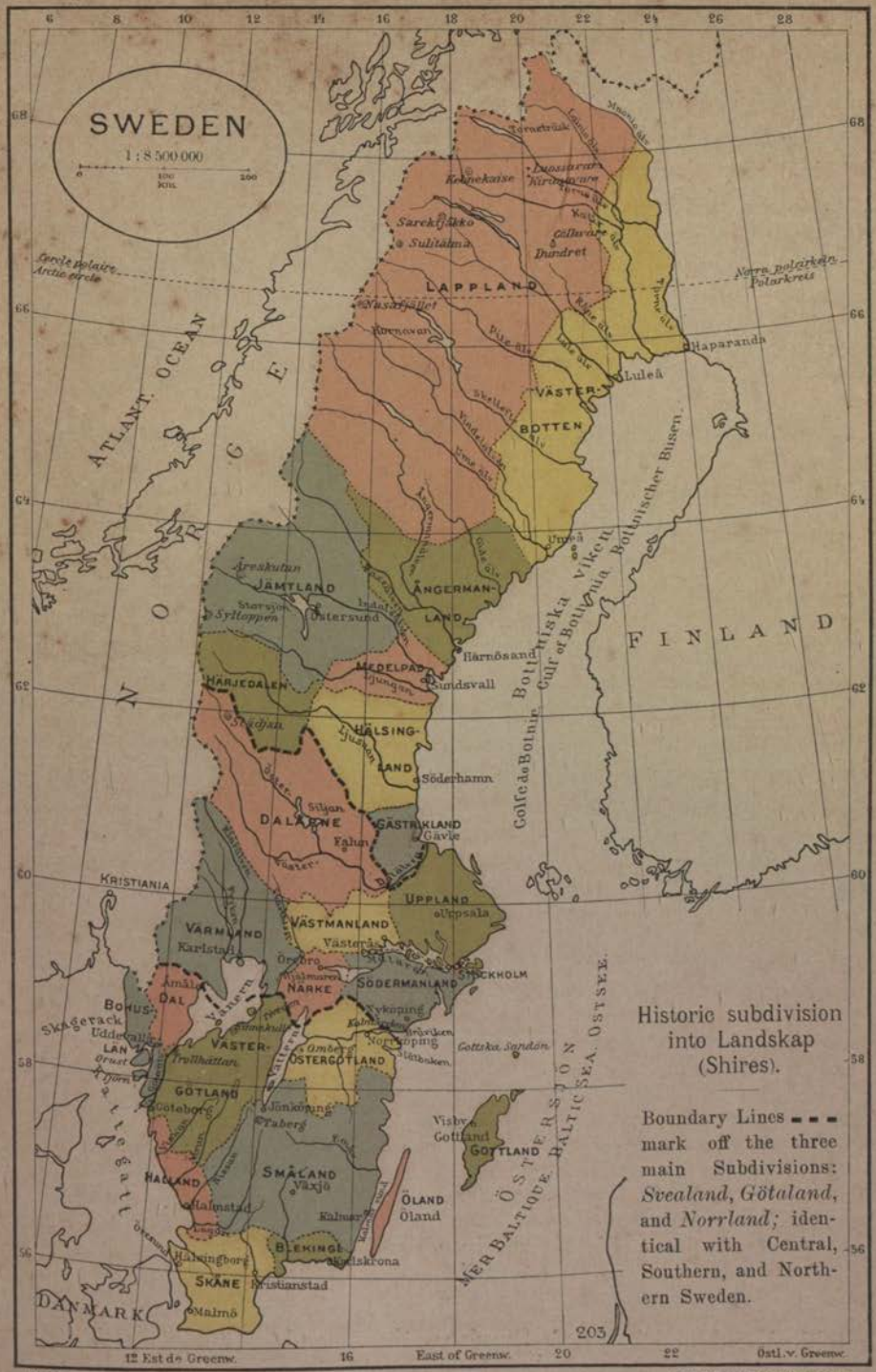
Remark. Figures supplied by the Swedish Ordnance Survey. 1 sq. km = 0·386 sq. mile.

from that of Greenwich is for the Stockholm Observatory 1 h. 12 m. 13·97 s., for Uppsala 1 h. 10 m. 30·13 s. and for Lund 0 h. 52 m. 44·97 s.

The *length* of Sweden from north to south is 1 574 km. Its greatest *breadth* is 499 km. Strelbitsky calculated that the *total boundary line* measures 9 817 km, of which 7 624 km consists of coast-line, 536 km of the boundary towards Finland and 1 657 km of that towards Norway. It is clear, however, that all such computations can only lay claim to approximate accuracy, as they are largely dependent on the extent to which the indentations of the coast-line are taken into consideration.

The *area* of Sweden and how it is apportioned among the various Läns, Administrative Districts, is shown by Table 1.

The **boundary-line** between *Sweden* and *Norway* for the greater part of its length — from the far north to the northern part of Värmland — is really a natural boundary, running along the ridge of pathless mountains that is the highest part of the Scandinavian Peninsula and forms its chief divide. The southernmost section of the boundary-line, on the other hand, owes its course to historical events and has been repeatedly shifted now to one side, now to the other, according to the varying fortunes of the respective countries. At all times lively intercourse has existed along its length between the inhabitants on either side. The boundary towards *Finland* is formed by the main channel of the rivers Köngämä, Muonio and Torne.



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As is the case in most countries, the administrative and the historical *divisions* of Sweden are not coincident. The old, historical division into **Provinces or Shires** (Landskap) is shown on the accompanying map which also marks the three ancient "main divisions" of the country, *Svealand, Götaland,* and *Norrland.* The last-named includes in accordance with rule the administrative district Gävleborg Län. With this addition the area of Norrland amounts to 261 300 sq. km; that of Svealand to 85 100 sq. km and that of Götaland to 92 600 sq. km. To obtain the intire area of Sweden there must be added to this those of the four great lakes of Central Sweden (9 100 sq. km altogether), they not being ordinarily included in the area of the läns adjacent to them.

1. CONFIGURATION.

The backbone of the Scandinavian Peninsula consists of a very ancient **mountain range** which was thrown up in a remote geological period along the NE boundary of what is now the Atlantic Ocean. This upheaval in the earth's crust can be traced from the North of Ireland, across north-western Scotland to the Scandinavian Peninsula, where it is first visible in the Norwegian mountains that stretch from Stavanger on the W coast to the boundary in Härjedalen and thence along the frontier itself in a broad belt, embracing sections of both countries, until it reaches the great mountain lake, Torne Träsk, whence it vanishes into the ocean to appear once more along the western coast of Spitzbergen.

This elevated stretch of country, running principally SSW to NNE. has been the determining factor in the general geographical development of Sweden through a long series of geological epochs. Down from the watershed of the interior of the ancient continent streams of water found their way to the extreme edge of the land, excavating as they did so the deep and characteristic river-valleys in the *Highlands of Upper Sweden.* Owing to a series of faults, chiefly running from N to S and from W to E, large areas of the country at a later period of its geological history were depressed below their earlier level. This tectonic movement was the origin of the Baltic, the Gulf of Finland and the large lakes and plains which are to be found in the *Lowlands of Central Sweden.* There still exists a remnant of the ancient continental plateau further south in the *Småland Highlands,* which are bordered on the south by the *Plains of Skåne;* the latter are characterized by more recent, sedimentary formations which have given rise to natural features and scenery very different in general character to those of the Scandinavian-Finnish Archæan rock area. The four regions named constitute the main orographical sub-divisions of Sweden; they stand out with considerable clearness on the accompanying hypsographical map.

A) **The Highland District of Upper Sweden.** This embraces by far the greater part of Sweden, inasmuch as it must be considered to include not only the whole of Norrland but also Dalarne and Värmland as well as the northern part of Dalsland. It should, however, be noted that the *Coast District* of northernmost Sweden bears a considerable resemblance in orographical features to the Lowlands of Central Sweden.

One of the chief physical features of North Sweden is the marked contrast, on the one hand, between the numerous, in comparison to their length very broad, river-valleys which traverse the districts in question from NW to SE, and, on the other hand, the extensive mountain and forest land occupying the country between the rivers (Vide Hydrography).

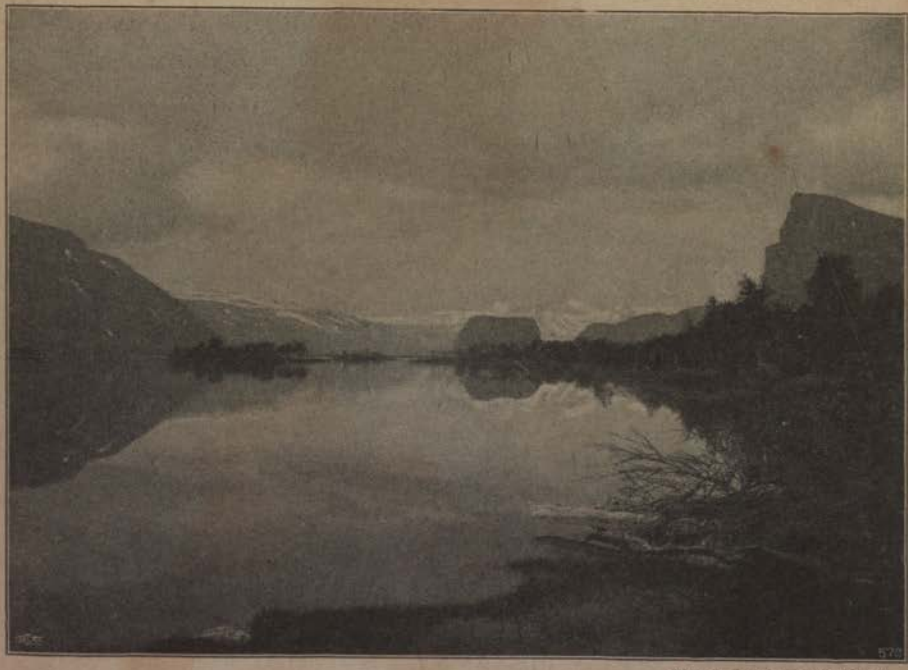

Photo. LUDVIG WÄSTFELT, Jokkmokk.

Lake Laitaure, Lappland.

Between the main valleys of the principal rivers, which can be followed right up into the heart of the Scandinavian mountain chain, there are also a number of less considerable streams and rivers that take their rise in the wooded districts nearer the coast.

Although the dissimilarity in character between the river-valleys and the intervening higher lands is very manifest, the resemblance between the former on the one hand and the latter on the other in the various parts of Northern Sweden is very great. This is far from being the case, however, if one traverses the country from east to west from the Baltic to the mountains. Three belts running in the longitudinal direction of

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the country may be easily distinguished: farthest to the west, one of high mountains and great lakes; then a district of stony moraines and peat-mosses, and finally a region principally covered by Quaternary marine deposits of sand and loam. These belts pass into one another, it is true, but are nevertheless in general clearly defined.

a) **The Mountain and Lake Belt.** The Swedish mountains constitute, as was stated above, one section of an extensive chain of high mountains that occupies a part of Sweden contiguous to the Norwegian frontier, is about 100 km in breadth and extends from the utmost extremity of the country in the north down to the northernmost part of Dalarne. This district was in ancient times called *"Kölen"* and is so still, though the name has sometimes been incorrectly used to include also the more southern part of the borderland between the two countries. The limits of the mountain district to the East are, as a rule, very clearly marked, the mountains often rising sheer from the wooded tracts on that side. By reason of its great geological age this Swedish mountain range differs in several respects from the mountain ranges of Central and Southern Europe. Thus even the highest peaks in Sweden have, in general, a rounded form this being principally due to the fact that here destructive forces and erosion have had a vastly longer period for the prosecution of their work than has been the case, for instance, in the Alps. The protracted period during which the land was under ice during the Glacial Epoch is another contributory cause. Only a few solitary peaks, consisting of some specially hard and unyielding material, mostly of an eruptive nature, have been capable of retaining down to the present day that boldness of outline which is generally regarded as characteristic of lofty mountains; this is the case with the peaks named the *Sylarne* in South Jämtland, and the peaks of the *Sarekfjällen* and *Mt. Kebnekaise* in North Lappland. Another peculiarity of the Swedish mountains is that they are intersected by wide and deep river-valleys which divide the range into distinct mountain-masses. So marked are these divisions, that it was reserved for the geological researches of the last few decades to discover that these separate masses originally formed one great mountain chain. A noticeable difference in the character of the river-valleys on the Swedish and on the Norwegian sides of the mountain range is that, whereas the valleys in Sweden rise slowly towards the divide, the rivers in those of Norway flow in deep, narrow gorges which carry their waters down to the ocean in the space of comparatively few miles.

The most important of the Swedish mountain-groups, enumerated from north to south, are the following: The Kebnekaise group south of the Lake Torne Träsk, in which Mt. Kebnekaise itself towers aloft from among the adjacent heights, the highest in all Sweden, 2 123 m above the sea, though Kaskasatjåkko 2 093 m almost attains the same height. South of the upper main valley of the Lule River are found the numerous peaks of the groups: Sarekfjällen, Ålkasfjällen and Pårtefjällen; this group forms perhaps the grandest section of the whole mountain region of Sweden, presenting as it does numerous and

Photo. Borg Mesch.

Mt. Kaskasatjåkko, Lappland.

extensive glaciers and well-nigh inaccessible summits, such as: Sarektjåkko 2 090 m, Ålkasfjället 2 010 m, Skuorka 2 019 m, Pellorippe 2 025 m, and Tjäura 2 042 m. Further westwards the summits do not rise to such a height; the peak of Sulitelma, just on the Norwegian frontier and formerly supposed to be the loftiest point in Sweden, attains an altitude of only 1 877 m. Southwards too the summits decrease in height. Among these may be mentioned Kuostertjåkko 1 694 m, south of the upper valley of the Pite River, and the peaks in the vicinity of the northern tributaries of the Skellefte and Ume Rivers which are from 1 600 to 1 700 m, while Stuorevare, situated in the group known as the Norra Storfjället close to the principal tributary of the Ume River, has a height of 1 764 m. In the regions to the south of this district, the summits hardly attain a greater altitude than 1 200 or 1 400 m. Of the better known ones Åreskutan is 1 420 m and Anjeskutan 1 199 m. South of the Åre valley there is a very extensive region the highest summits of which are Storsylen 1 762 m and Helagsfjället 1 796 m. At this point the mountain range turns westwards into Norway. The southernmost limit of the long chain consists of the majestic quartzite masses of Härjedalen and northernmost Dalarne; here the chief summits are: Hundshögen 1 372 m on the borders of Jämtland; Servfjället 1 171 m and Sonfjället 1 277 m in Härjedalen and in the northernmost part of Dalarne; there is situated the most southerly mountain region in Sweden, viz. Lingfjällen, including the summits Storvätteshogna 1 204 m, Nipfjället, a mountain complex with a peak of the same name 1 191 m and Städjan 1 130 m. Further southwards on the Norwegian boundary-line lie Härjehogna 1 183 m, Fulufjällen, the loftiest peak of which is Tyskstöten 995, and Tranastrandsfjällen on the Värmland boundary-line, attaining an altitude of up to 931 m.

The North-Swedish mountain chain is intersected, as mentioned above by numerous valleys. The passes from one side to the other are numerous and form deep incisions in the mountains; thus, in some score of places they do not rise to 900 m in height. The lowest points are situated north of Lake Torne Träsk (412 m) and near Tunsjön (351 m) west of the Ström River Valley. These valleys, owing to the character of the rocks through which the rivers have had to make their way, are of two types: broad, open excavations that slope down gradually towards the sea and deep gorge-like incisions with more or less precipitous sides; the former is the type most largely represented. In many instances the broad valleys are partially occupied by long-shaped lakes, whose origin is to be traced to changes brought about during the Glacial Period in the old river-courses. The valleys that the rivers had cut through the rocks were at that time frequently dammed up by immense masses of morainic and fluvio-glacial material; moreover, it is possible that a diversiform upheaval of the land may have contributed towards altering the drainage of the area. As the divide had an elevation of from 400 to 800 m, there was no possibility of the water finding an outlet to the West, and hence the origin of the great lakes. These lakes, which are so characteristic of the interior of Norrland, have many features in common. Thus they are all situated at elevations varying only by about 100 m; their greatest depth is, as a rule, at the western end, where, too, their character of mountain lakes is most clearly evident. The chief of these lakes, from North to South, are as follows:

Lakes	Height above Sea Level. Meters.	Area sq. km	Lakes	Height above Sea-Level. Meters.	Area sq. km
Torne träsk	345	326	Malgomaj-Volgsjön . .	341—333	104
Langas-Stora Lule Lake	375—370	227	Flåsjön	265	130
Saggat-Skalka	303—295	83	Ströms vattendal . . .	286	96
Hornavan-Storavan . .	425—419	713	Hotagen	313	50
Storuman	348	166	Kallsjön	381	151
Vojmsjön	413	78			

The rocks forming the higher portions of the mountain chain are, in general, quartzites and hard eruptive rocks, such as gabbro and diabase, whereas softer rocks, such as mica and other schists, appear very largely in the valley-courses and at lower levels. Along the eastern limit of the mountain area are to be found unmetamorphosed Silurian schists, limestones, sandstones, etc.; this zone attains its greatest breadth in the fertile and extensive plains of Jämtland.

Very considerable sections of the mountain regions, such as those about Kebnekaise, Sarek, and Sulitelma, are covered with *glaciers*. The most southerly glacier in Sweden is the small one on the northern slopes of the Helagsfjället, 62° 54′ 19″ N Lat. and 5° 36′ 3″ W Long. of Stockholm. The total number of glaciers is somewhat over 200 and their entire area is approximately 350 sq. km. In other places the surface-covering of the mountains is that of a *mountain moorland*, characterized

by lichens, mosses, and a few flowering plants; only in spots copiously supplied with moisture does a richer and more varied flora appear. On the mountain-slopes the birch (Betula odorata) struggles upwards, in the southern parts almost everywhere closely followed by the Norway spruce (Picea excelsa); in the northern parts it grows alone over vast regions, though somewhat lower down it is sparsely mingled with Scotch firs. The possibility of grazing and tillage on the lower parts of these mountain regions (say up to 600 or 800 m) is far greater than might be supposed, thanks to the large areas of fine, fertile sand or loam that was deposited during the latter portion of the glacial period in the large, ice-blocked lakes then occupying the greater part of the valleys. It is in these parts that the cultivated districts are now mostly to be found.

b) **The Moraine and Peat-Moss Belt.** This region almost wholly coincides with the area marked on the orographical map on p. 6 as lying at an altitude of between 200 and 500 meters above the sea. The river-valleys are far less deeply excavated here than in the mountain region. This is especially the case farthest north and as far south as the Lule River; in that district we find plains, many miles in extent, traversed by slow, winding rivers, while here and there solitary hills with long and gradually sloping sides rise from their surface to the height of some few hundred feet. It is here that the famous Lappland iron-ore mountains are to be found: Gällivara, Loussavara, Kirunavara, Svappavara and others. Further south, hills are more numerous, rendering the surface more broken in character; the highest mountains attain an elevation of from 500 to 600 meters above sea-level.

The surface throughout the belt in question has approximately the same appearance as at the close of the Glacial Period. The ancient moraine deposits are spread like a coverlet, a few meters in thickness, over the original rock, which consists of varieties of gneiss, granite etc.; peat-mosses are almost the only recent formation to be found. The moraine districts are stony in character, in places so much so that the surface consists of rugged boulders. In consequence of the hilly and uneven surface and the difficulty that moisture has in making its way through the closely packed moraine deposits, all the low-lying tracts are liable to become swampy, this circumstance accounting for the very large areas of marshes and peat-mosses, amounting to from about 15 to 30 % of the whole region. "On clear, cold summer evenings", writes A. G. Högbom, "when the mists settle upon these lowlands, the heights rise from their midst like rocky islets from the surface of a sea. The landscape displays a similar scene in winter, when the wooded heights strongly contrast with the snow-clad plains around them". — An evidence of the extensiveness of peaty soil within this belt is the brownness of those rivers that take their rise here (e. g. the Gide, Öre and Råne), a colour due to the humus substance they contain; the great rivers that proceed from the mountains have all of them far clearer water.

In this belt with its drier soil *forests* cover large areas; indeed so extensive are they, that it is this region which constitutes the chief source of that wealth in timber for which Sweden is so famous and which exercises such an influence upon the world's timber-market. This vast forest region embraces, in round numbers, 100 000 sq. km in Norrland, Dalarne and Värmland, and extends for 1 000 km in a NNE—SSW direction, with a breadth varying between 150—250 km. The Scotch fir is, in general, the most prevalent tree on drier soils and wherever forest fires in recent times have destroyed the timber, whereas the Norway spruce is more predominant in places with greater moisture. On the peat-mosses, on the other hand, no timber grows; there the ground has a covering of various species of heather, sphagnum and sedge, with here and there some patches of stunted pines.

Save for the plains of Upper Lappland described above, the typical river-valley in this belt has steep and naked banks; the landscape only assumes a more attractive appearance in the vicinity of the lakes or along the course of some isolated glen. Otherwise the aspect of these forest regions is extremely monotonous — a land of vast distances and of scanty communications. Except in the fertile Silurian plain of Jämtland, whose surface was also partially covered with the ice-blocked lakes mentioned above, the possibilities of cultivation with the now prevailing prices of labour are very limited. To escape from the destructive agency of frost as far as possible and to obtain the best and warmest soil available, the peasants have located the patches of cultivated land on the slopes of the heights that face the South, and there hamlets, farms and dairy-pastures may be seen, like so many oases in the endless stretch of forests. In the southernmost parts of the region, in the mining districts of Dalarne and Värmland, cultivation of the soil has made greater progress owing to the somewhat milder climate and especially to the abundance of valuable ore-deposits.

c) **The Marine Sand and Clay Belt.** The extent of this belt is very clearly marked in general in the river-valleys. At the base of the valleys lie wide plains, ancient delta-land of sand or loam, deposited once upon a time on the sea-bottom when the now-existing coast districts were covered by the sea, i. e. at about the close of the Glacial Epoch or later. In the northern part of the Gulf of Bothnia these marine deposits attain an elevation of about 200 m above the sea, and extend about 100 or 150 km into the interior; in Ångermanland, Medelpad and Hälsingland they rise to as much as 250 m above the sea but as a rule do not penetrate farther inland than from 50 to 80 km; in Dalarne and Värmland they rise from 150 to 200 m above the sea. The sea has washed away the moraine deposits of the Glacial Epoch from the summits, which consequently mostly display the naked rock, or at all events are denuded of all their finer material so that only gravel and stone remain. The material thus removed from the summits was deposited on the former sea-bottom, which

is now for the most part land. Such is the origin of those level and well-tilled areas now to be met with in all the river-valleys of North Sweden, where agricultural industry has thriven for many hundreds of years past. Along the upper limit of the marine deposits extensive fields of coarse sand have been deposited in the majority of the river-valleys; on it the pine has found a habitat to its liking.

Photo. DAVID HOLMQVIST.

Klarälven River Valley at Ekshärad, Värmland.

On the right a "Nipa" (vide below), excavated in the Marine Deposits filling the bed of the Valley.

Subsequent to the rise of the land, the rivers worked their way through the loose deposits down to their original beds on the firm rock and along their banks there still remain immense cuttings through sand and loam, often some tens of meters in depth. These cuttings, which are locally termed "*nipor*", often assume fantastic forms and contribute to the picturesque beauty of the scenery, which especially in the valleys of the Ångerman and Indal Rivers is very celebrated. Another more striking element of beauty present in all the river-valleys of northern Sweden is the blueness of the distant hills lining the horizon.

From the Öre River in the North to beyond the mouth of the Indal River in the South there are to be found extending all the way down to the coast, numerous heights, rising to some 300 or 400 (exceptionally 450) m above the sea. Further south the summits are in general more inland.

though south of the Ljusnan the highlands of Härjedalen and Hälsingland approach to within a few miles of the sea; their peaks are occasionally as much as 400 m or more, in height. In the Marine-Deposit Belt the soil on the heights, however, is often shallow and dry, so that the regrowth of the forest here is often inferior to that of the moraine districts in the interior of the country.

The utmost Area of Sea during the Late Glacial Period (The Yoldia Sea).
Present coasts indicated by faint lines.

The present *coast-line* in Norrland is only of a temporary character, inasmuch as the upheaval of the land now going on (which for last century in the Quarken was about 1 m and at Stockholm about 47 cm) causes the boundary constantly to advance, so that fresh tracts of sea-bottom, exactly similar in nature to that just described, are continually making their appearance. The valleys are continued under the surface of the sea; the thousand islets, skerries and islands now forming the "Skärgård", i. e. fringe of skerries, are but the first emerging tops of the hills and summits of the future; the shallow sand and loam bottoms of the bays are the fields, which, when eventually raised above the level of the sea, will be taken possession of by the agriculturist. In the tracts abandoned and left dry by the sea, when not immediately claimed for cultivation, coniferous forests

make their appearance, almost always preceded on the Norrland coast by a belt of speckled alder (Alnus incana), usually some tens of meters in breadth.

B) **The Lowlands of Central Sweden.** The marine-deposit district with its plains and easily cultivated clay soil extends from the Norrland littoral across the whole of the Lowlands of Central Sweden; the dissimilarity of the two regions is, nevertheless, very great. If the contour-lines for 100 and 200 m be traced on the map on p. 6, and the accompanying sketch-map be placed alongside for comparison, it will be seen that the immediate continuation of the Norrland coast belt runs through the southern districts of Dalarne and Värmland, where deep valleys penetrate the more elevated, moraine-covered primary-rock regions. Here, then, as in Norrland, forest-clad hills occupy the larger part of the country, while in the lowlands proper the greater part of the country consists of leveller ground, principally formed of marine deposits. Out of this there rise in different parts more or less numerous hills, of varying elevation but seldom exceeding from 50 to 100 m above the sea. Exceptions are the Silurian mountains of Västergötland, of which Kinnekulle is 302 m in height, Halleberg 148 m, Hunneberg 142 m, Billingen 298 m, and Omberg, a remnant of Archæan rock still preserved on the east side of Lake Vättern, 263 m. Wherever the Archæan rock summits have been much exposed to the action of waves and winds, they have for the most part lost the finer elements in their soils, which renders them but poor as forest land; on them Norway spruces and Scotch pine, with some few birches and aspens here and there, carry on a hard struggle for existence, often intensified by the molestations of man. The soil in these parts is but ill-adapted for tillage.

As pointed out above, it is the faults in the underlying rocks that, following along certain defined lines, originated the Lowlands of Central Sweden in the first instance, the marine deposits later spreading over the surface in a thick layer and producing greater fertility and uniformity of level. These formations more especially afford an exceedingly arable and fertile soil in those parts where there exists a fairly large admixture of lime, such as Uppland, Närke, Östergötland, and Västergötland; in former times the finer species of foliferous trees, such as the oak, maple, ash, lime, hazel, etc., grew here, forming continuous stretches of forest that encompassed the dark patches of coniferous trees on the higher ground. It was on these inviting plains that the first settlers in Central Sweden took up their abode, brought the soil under cultivation and laid the foundations of the Swedish national power. Large sections of Archæan rocks, remaining as "Horsts" above the plains created by the faults, as for instance Kolmården and the ridge of hills north of Lake Vättern, form the large forest-clad districts that long prevented the inhabitants of the adjacent plains from uniting to form one political unit.

Though the differences of elevation in the extensive Lowlands of Central Sweden are not very great, yet the process of depression was so

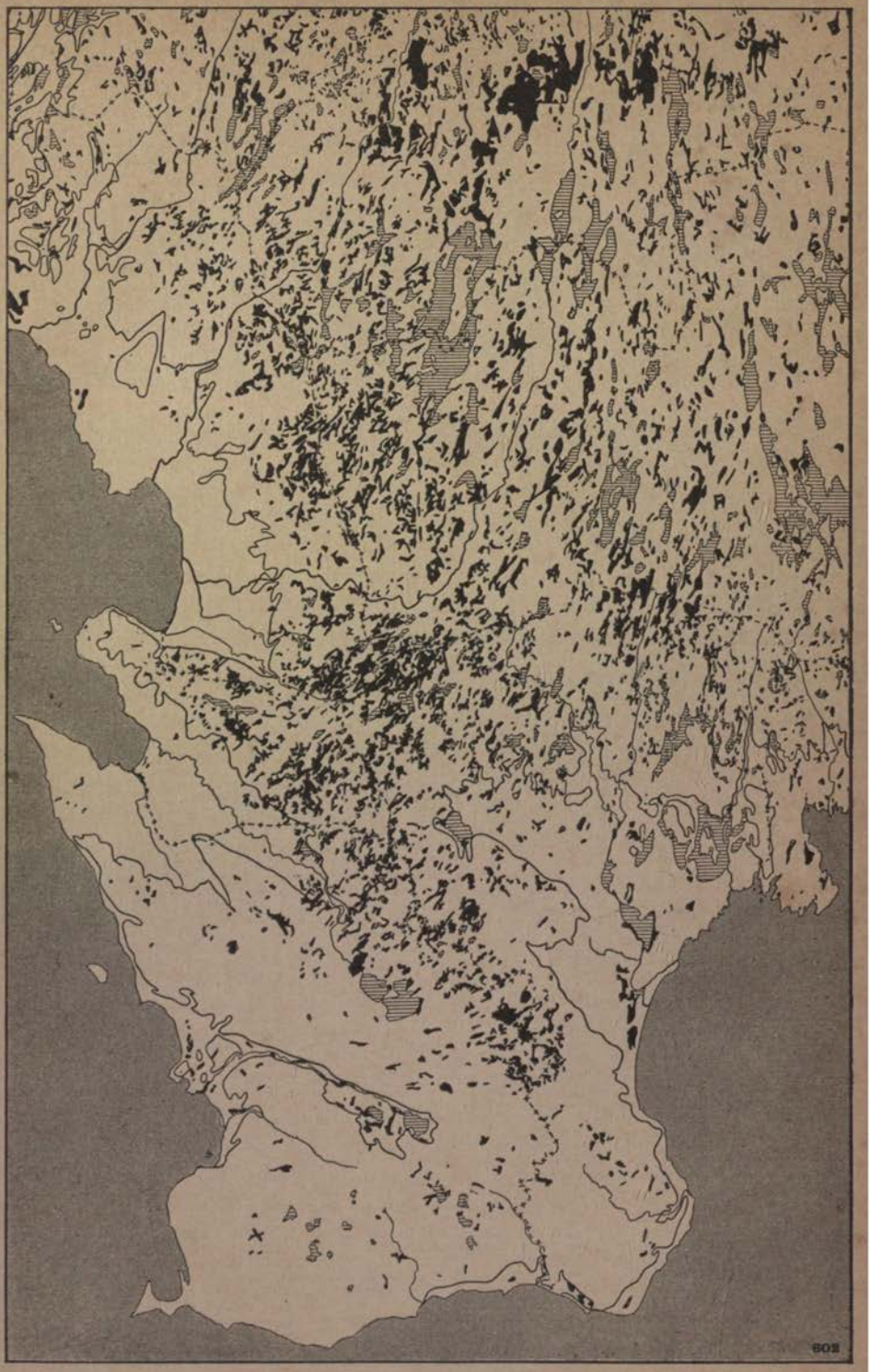
dissimilar in various parts as to cause some sections to lie below the general level, thereby giving rise to the basins now occupied by lakes. Of these countless lakes some are of considerable size; from very early times they have played an important part in facilitating intercourse between different places in the heart of Sweden. The four chief lakes are:

	Height above Sea-Level meters	Water-area sq. km	Greatest Length km	Greatest Depth m
Mälaren	0·3—0·6	1 149	117	64
Hjälmaren	21·0	480	61	18
Vättern	88·2	1 899	131	119
Vänern	44·0	5 546	150	89

Very remarkable features in the landscape of the plains of Central Sweden are the very numerous *eskers* (åsar) of rubble-stone and gravel, which traverse the country in a NNW — SSE direction. These ridges attain considerable length and vary in height up to 30 m, or occasionally 60 m; they are comb-shaped and are usually wooded; they often rise above the hills of Archæan rocks, and are on the whole unaffected by the original topography of the country around them. They are deposits from the Glacial Epoch. From a practical point of view they are of very great importance as affording a plentiful supply of excellent water and also of gravel which latter has been put to a large variety of uses. Similar ridges are to be found in other parts of Sweden, but in more hilly districts they do not play nearly so great a part orographically as for instance in Central Sweden. Such ridges are the famous Brunkebergs-åsen, in Stockholm, and the Uppsala-åsen.

Like the Lowlands of Central Sweden, the *Coast Districts* in Bohuslän, North Halland and Småland have also been submerged beneath the sea to a depth of from 150 to 60 m (diminution southwards). Consequently, the resemblance between those districts is very considerable. The actual coast-line is fringed with a numerous array of islands of varying sizes and of islets or skerries *(Skärgård)*, which only comes to an end southwards, on the East coast, at Åhus, and on the West near Varberg. The more favourable climatic conditions that prevail roughly speaking from the South of Uppland, on the one hand, and from the Norwegian boundary, on the other, give rise, however, to the prevalence of a richer and more varied vegetation of choicer foliferous trees and numerous herbaceous plants in those coastal districts where the soil is of superior quality. This contributes to give the southern Skärgård of Sweden a more varied and often a more inviting aspect than is that of the northern Skärgård. The ravages of the west winds, however, along with ruthless felling of the woods have deprived large parts of the west coast area of their forests; consequently bare rocks and low heights covered with a stunted growth of heather form a characteristic feature of the scenery of this unique coast-fringe of peninsulars, islands and skerries.

An intermediate form, so to say, between the Central Swedish Low-



Sketch-map showing the Distribution of Peat Mosses in SW Sweden.
Lakes indicated by hatching. Continuous line on land marks high-water mark of sea in Late Glacial Period.

lands and the Plains of Skåne is presented in some degree by the islands of *Öland* (1 345 sq. km) and *Gottland* (2 959 sq. km). During the last phase of the Glacial Epoch both those islands were entirely submerged. Hence, the looser constituents of the Quaternary deposits were subjected to the same sorting and re-arranging processes that took effect in the provinces of Central Sweden, but as the fundamental rock consists of Silurian limestones, schists, and marls, with horizontal stratification, the country here has acquired quite a different character. Broadly speaking, each of the two islands consists of a level limestone rock, the altitude of which only varies to the extent of twenty or thirty meters. The shallowness and ready permeability of the soil, allied to the coldness and dryness of the springs and early summers, render the general character of the vegetation much more like that of northern latitudes than might be expected, to judge from the plant-life of certain moist, warm and sheltered localities. The greater part of Gottland, for example, consists of arid pine-forests, with little variety of species; in their midst patches of foliferous trees of varied species form interesting oases in an otherwise uniform landscape; the main part of Öland too consists of a naked, steppe-like limestone rock, to which the name Alvaren has been given. The northern parts of Gottland and Öland and the small island to the north of Gottland, called Gotska Sandön, present very fine expanses of sand-dunes.

C) From a geographical point of view the **Småland Highlands** include all the land lying above the region of the marine deposits, not only in Småland itself but also in South Västergötland, Halland, North Skåne, and Blekinge. This region presents such a complete resemblance in all respects to the middle belt in Upper Sweden (that of the moraines and the peat-mosses), that it is scarcely necessary to give any minute description of it. As may be seen by the map, it is only exceptionally that the height of the district is less than 100 m above the sea, and more than half of it, chiefly in the central and eastern portions, is upwards of 200 m above sea-level. The loftiest points are Galtåsen East of Ulricehamn (362 m) and Tomtabacken South-West of Nässjö (337 m).

The Småland Highlands may be designated a prolongation of the continental plateau of Upper Sweden, from which they are cut off by the Lowlands of Central Sweden. The river-valleys are not it is true so large, nor are they so deeply excavated into the Archæan rocks, which prevail here too, as are those of Norrland; they are nevertheless of considerable size. The fundamental rock is almost everywhere covered by a sandy moraine, little adapted for agriculture; in its higher parts there occur some very extensive peat-mosses. When travelling by the south trunk railway line, a stranger to the country, in passing from Osby to Nässjö or vice versa, will see country that is so very much like that in the middle belt of Upper Norrland that he would have a great difficulty in discovering any points of dissimilarity between the two. The same

extensive forests of pine and spruce, with a sprinkling of foliferous trees, principally birch, in the vicinity of the scattered inhabited spots; the same desolate peat-moss areas with scattered, stunted firs on them; the same succession of meagre heights and shallow valleys. It is only the favourable climatic conditions that have made more extensive agriculture possible. Hence, to give but one example of the effect of the lastmentioned factor, there exist far fewer obstacles to the cultivation of the large peat-mosses in this part of the country than is the case farther north.

Plains of Skåne, near Alnarp.

D) The southernmost section of Sweden, which though not of great extent, is of especial importance on account of the extremely favourable natural conditions prevailing there, is that occupied by the **Plains of Skåne.** Through Skåne runs the natural boundary, from a geological point of view, between the Scandinavian-Finnish Archæan rock-district on the one hand and the extensive plains on the other that border the shores of the southern section of the Baltic Sea and rest on a foundation of sedimentary formations. This boundary-line runs approximately in a south-westerly direction from Skelderviken, situated at the northern end of the Sound, in the NW to Stenshuvud on the Baltic in the SE.

A peculiar geographical feature in the orography of Skåne is that all the ranges of high ground run from NW to SE. The principal ones are the Hallandsåsen, highest summit 226 m; Kullen 188 m; Söderåsen 188 m; Linderödsåsen 196 m; and Romeleklint 175 m. This

feature is due to a series of faults running in the said direction, whose continuations can furthermore be traced on the island of Bornholm. These faults have brought about a depression of the deposits belonging to the Silurian, Rhæt-Lias and Cretaceous Systems, so that, in our times, they form extensive plains at the foot of the ridges of primitive rock. The ridges subdivide the plains of Skåne into separate sections. North of Linderödsåsen the *Kristianstad Plain* stretches up towards the boundary of Småland; south of that plain and east of Romeleklint is *Österslätt* (East Plain) which, passes, in the hillier tracts round Ystad, into the very fertile *Söderslätt* (South Plain), which is perhaps the part of the whole of Sweden most richly favoured by nature for agricultural production; then the plain continues northwards as far as to Skelderviken on *The Plains of Western Skåne.*

The general character of the plains is somewhat varied. In the neighbourhood of Skelderviken and in that of Kristianstad, where in each case there is a covering of recent marine deposits, the surface for large areas is almost perfectly level; in the southern districts there are now extensive, undulating and shallow basins, separated from each other by low ranges of hills, and now, as for instance to the South and South-West of Romeleklint, a very hilly country, where the morainic material has been heaped up into heights and ridges to an altitude of twenty meters or so above the intervening depressions, which are often without any outlet. The last-mentioned district is the most extensively wooded tract in southern Skåne; the large beech-woods lend to the scenery an attractiveness which is heightened by the luxuriant verdure of the meadows and the limpid waters of the lakes. The districts lying at the foot of the slopes of Söderåsen, from Ringsjön to the coal-producing districts round Billesholm and Bjuv, also present in parts scenes of a similar character. On the other hand, in the flatter part of the plains, the woods are less extensive and the view across the vast stretches of cultivated land is broken only by occasional farms with their surrounding plantations, and by long lines of stone fences and banks of willow. The contrast of this district to the rest of Sweden is further emphasized by the total difference that exists in the style of building and in the materials used. Wooden houses are practically unknown in Skåne, brick, granite and clay having taken the place of timber.

The *Coasts,* too, of Skåne are of quite a different character to those of the rest of Sweden. The shores of Skåne, Gottland, South Halland, and Öland are the only parts of the Swedish sea-board not fringed with islets. The fundamental rock, with its almost horizontal strata, runs into the sea at a gentle slope, the shore being shallow and open. Upon the eastern and southern coasts of Skåne the waves beat unimpeded and, aided by the wind, they have formed a series of sand-dunes which give the landscape a picturesque appearance. On the shores of the Sound, where the force of the waves is less considerable, wind and stream have spread a

stretch of fine sand and clay-silt on the shallow shore, giving rise to fertile, marshy meadows.

If a general survey is desired of the effect that the above-mentioned natural conditions have exercised upon the development, in a general cultural sense, of the various provinces of Sweden, a glance at the map on p. 114, which shows the density of population, will suggest interesting comparisons. The three belts of Upper Sweden are clearly distinguished on this map too. (The wedge of densely populated sawmill-area between Härnösand and Söderhamn requires no special comment.) The favourable natural conditions in the Lowlands of Central Sweden raise the density of population there one degree above the normal; that is not so in the Småland Highlands, though the less severe climate of this more southern region keeps the figure one degree higher than in the corresponding parts of Upper Sweden. The fertile plains of Skåne are the most densely populated of the large areas of Sweden; but even on the density of population map, it is evident what an unfavourable influence in this particular respect is exercised by Romeleklint, a small district of Archæan rock rising above the general level of the plain.

2. HYDROGRAPHY.

It is calculated that, of the area of Sweden, not less than 36 852 square kilometers — i. e., more than 8 % of the whole — consists of water, in the form of lakes and rivers. In consequence of the great extension of the country, these watercourses drain a large number of *basins*, which, however, are comparatively small in extent, as may be seen by the map on p. 22, which shows the boundaries of the principal Swedish basins, i. e., those with an area exceeding 1 000 square kilometers. These various drainage areas are distinguished from each other by different colours. Somewhat more clearly marked is the water-parting that separates the rivers flowing into the Baltic and the Gulf of Bothnia, on the one hand, from those running into the Sound and Kattegat on the other. This divide begins in Härjedalen, where the basins of the rivers Götaälv and Dalälven are conterminous, and then extends almost medianly through Central and Southern Sweden.

The number of basins with an area exceeding 1 000 square kilometers is 45; their names and areas are given in Table 2. They may be divided, both as regards area and several other characteristics, into two distinct groups, according as their area is greater or less than 10 000 square kilometers. To the first of these groups belong two categories of rivers — first, those belonging to *the great mountain-rivers* of Upper Sweden, from the Torneälv to, and including, the Dalälven, and secondly, the Norr-

TABLE 2. *Areas of the Larger River Basins of Sweden.*

N:o[1]	Name	Area in sq.km	N:o[1]	Name	Area in sq.km
1	Torneälv	39 900	48	Ljusnan	19 800
3	Sangisån	1 260	51	Testeboån	1 210
4	Kalixälv	17 900	52	Gavleån	2 490
7	Råneälv	4 140	53	Dalälven	29 200
9	Luleälv	25 200	54	Tämnarån	1 250
13	Piteälv	11 100	61	Mälaren-Norrström	22 300
17	Åbyälv	1 300	65	Nyköpingsån	3 640
18	Byskeälv	3 680	67	Vättern-Motalaström	15 500
20	Skellefteälv	11 600	74	Emån	4 450
21	Bureälv	1 040	75	Alsterån	1 520
24	Rickleån	1 810	82	Ronnebyån	1 070
26	Sävarån	1 160	86	Mörrumsån	3 390
28	Umeälv	26 700	87	Skräboån	1 040
30	Öreälv	2 990	88	Helgeån	4 890
32	Lödgeälv	1 510	92	Kävlingeån	1 230
34	Gideälv	3 480	96	Rönneån	1 890
36	Själevadsån	2 340	98	Lagan	6 200
37	Nätraån	1 000	101	Nissan	2 680
38	Ångermanälven	31 600	103	Ätran	3 350
40	Indalsälven	26 600	105	Viskan	2 200
42	Ljungan	12 800	108	Vänern-Götaälv	48 500
44	Harmångersån	1 040	110	Örekilsälven	1 340
45	Delångersån	2 070			

ström, Motalaström, and Götaälv, *the rivers discharging the great lakes of Central Sweden.* These river-systems are 14 in number, and drain no less than 69 % of the surface of the country. The largest of them is the basin of the Götaälv, the area of which is nearly 50 000 square kilometers. Of the Norrland "mountain-river" basins, the largest is that of the Torneälv, which drains a surface of approximately 40 000 square kilometers, only about 25 000 square kilometers, however, being in Sweden; and the smallest is the Piteälv basin, approximately 11 100 square kilometers in extent. Most of these river-basins are fairly equal in size, their areas ranging between 25 000 and 30 000 square kilometers, as for example, those of the Luleälv, Umeälv, Indalsälven, and Dalälven.

The second of the above-mentioned groups is sharply divided from the first by the fact that its largest river-basin — that of the River Lagan — does not exceed 6 200 square kilometers in extent. Hence there is no drainage-system between 6 200 square kilometers and 11 100 square kilometers. Within the second group, the differences are less pronounced. This group embraces 31 basins, comprising 16 % of the total area of the country. This group, too, can be divided into several categories, namely the *forest-rivers of upper Sweden,* which, contrary to the mountain-rivers, rise within the belt of moraine-tracts and bogland. In this category may be included, for example, the Byske, the Öre, the Lögde, and the Gide rivers. Further may be distinguished the *Småland-Halland rivers,* draining the "Småland Highlands, or Plateau". Among these rivers

[1] Cf. the accompanying map.

SWEDEN
1 : 8 500 000
0
100
200
km.
Larger River Basins.
Above the forest-limit
Below the forest-limit
Above 10000 sq.km
10000—1000 sq.km
Below 1000 sq.km
197
123483
GEN. STAB, LIT. ANST.

may be indicated the Emån, the Helgeån, the Lagan, the Nissan, the Ätran, and the Viskan, etc. Finally, a third category within this group embraces a number of larger *lowland rivers,* such as the Tämnarån and the Nyköpingsån — which drain parts of the Central Swedish Lowlands — and the Kävlingeån and the Rönneån, which drain a considerable part of the Skåne Lowlands.

Small *littoral- and boundary-rivers* drain 15 % of the country. Of these, 70 have drainage areas varying between 1 000 and 200 square kilometers.

The *general geographical character* of the Swedish water-systems is intimately connected with the geological development of the country. In consequence of the great changes brought about by the ice-period, the rivers have all been impressed with the characteristics of — geographically speaking — young rivers. One result of this is the great number of *lakes* the country possesses, only such areas — Finland, for example, or Canada — as, like Sweden, have had an ice-period, being able to compete with the latter country in this respect. Another result is an undeveloped longitudinal profile, with numerous *waterfalls* and *rapids,* which, from the point of view of water-power, makes Sweden one of the most important countries of the globe. (See the section dealing with the waterfalls of Sweden, Part II.) A third consequence is, that the different river-basins are generally but indefinitely separated from each other, so that *neutral areas* and *bifurcations* are of frequent occurrence. This is especially so in those districts where the divides are disposed over extensive bog-lands which are of very late geological origin.

A series of investigations has been carried out for the purpose of determining the character of the soluble and other alluvial matter in the waters of the rivers. As regards *the percentage of soluble matter,* these examinations have shown to what a very great degree this depends on the rocky soil and the character of the looser strata. For example, the chemical denudation, estimated in grammes per square meter, in the rivers of Upper Sweden and the Småland Highlands, *whose basins are characterized by primary formations,* is estimated at 10 grammes per square meter, but in those tracts where *silurian rock* occurs to any very great extent — in that drained by the Indalsälven, for example — this figure rises to 19 grammes. In the *rivers of the Central Swedish Lowlands,* the figures are much higher, being, for example, in the Nyköpingsån 12, in the Mjölnaån — by which the waters of Lake Tåkern escape — 24, and in the Tidan, 26. The percentage is highest in the *rivers of Skåne,* as in the Rönneån, where it amounts to 28 and in the Kävlingeån, 44 grammes per square meter.

Apart from the area of the basin drained, the varying *levels* or gauge-heights and the discharge-*volumes* of the waters of the rivers and lakes depend, in the first place, on the extent and distribution of the precipitation; secondly, and in a very great degree, on the extent to which the water is stored up, in the form of snow, or in lakes, or as subterranean water, and, lastly, on the character of the rock formations, of the looser upper strata, and of the vegetation.

O. Appelberg has investigated the influence exerted by the last-named factor on the discharges. The results of these studies may be summarized as follows: *Cultivated ground* tends to promote the overflowing of rivers during wet years, and drought during dry years; *meadow-land* is a protection against inundations in wet years, but diminishes the supply of water in times of drought; *timbered land* always increases the amount of water but, during rainy periods, yields only half the volume given by cultivated ground, and, in dry years, gives so much water that it contributes essentially to prevent drought; *lakes* are efficacious regulators of the water-level, by their storing the surplus water obtained from excessive precipitation during wet years, and afterwards returning it again slowly during a drought.

Tännforsen Falls in Winter Garb.

On an examination of the varying hydrographic conditions obtaining in Sweden, it is found that it is possible to divide the Swedish streams into a number of groups, which are in close correspondence with the physical-geographical provinces. These groups — typical rivers and stations representing the groups in the map and Table 2, respectively, being given in parentheses — are as follows:

A. **Mountain-rivers of Upper Sweden,** this division including all the mountain-rivers from the Torneälv to the Klarälven. They can be subdivided into the following groups:

a. *those in the North of the Government-district of Norrland,* from the Torneälv to, and inclusive of, the Umeälv (the Luleälv at Trångfors; the Umeälv at Vännäs);

b. *those of Central Norrland* — the Ångermanälven, the Fjällsjöälv, the Faxeälven, and the Indalsälven (the Indalsälven at Bomsund);

c. *the rivers of South Norrland,* the Ljungan and Ljusnan (the Ljusnan at Edänge);

d. *the mountain-rivers of Central Sweden,* the Dalälven and the Klarälven (the Dalälven at Älvkarleö; the Klarälven at Dejefors).

B. **The forest- and littoral rivers of Northern Sweden,** comprising all the streams of Norrland, with the exception of the mountain-rivers, but including a large number of the tributaries of the last-mentioned class of rivers, and the rivers of Värmland and the Bergslagen (the mining district of Central Sweden), all of which latter belong to the basins of Lake Vänern and Mälaren. The rivers in question, like those in Group A. can be divided into the following sub-groups:

a. *rivers of North Norrland* (the Byskeälv at Myrheden);

b. *rivers of Central Norrland* (the Gideälv at Björna);

c. *rivers of South Norrland* (the Delångersån at Näsviken);

d. *rivers of Central Sweden* (the Gullspångsälven at Kortfors and Åtorp; the Södra Barken at Semla).

C) **The rivers of the lowlands of Central Sweden,** comprising the streams draining the plains of Uppland; Närke, Södermanland, Östergötland, and Västergötland. From their position east or west of the principal water-parting they can be divided into:

a. *eastern rivers* (the Fyrisån at Uppsala; the Nyköpingsån at Nyköping);

b. *western rivers.*

D. **The Rivers of the Småland Highlands,** comprising all the remaining streams of the south of Sweden (with the exception of those of Skåne), which, as a rule, rise in the Småland Highlands or their outliers. In accordance with the principle adopted för Group C, these rivers can be divided into the following sub-groups:

a. *eastern* (the Emån at Järnforsen; the Helgeån at Hönjebro and Kristianstad);

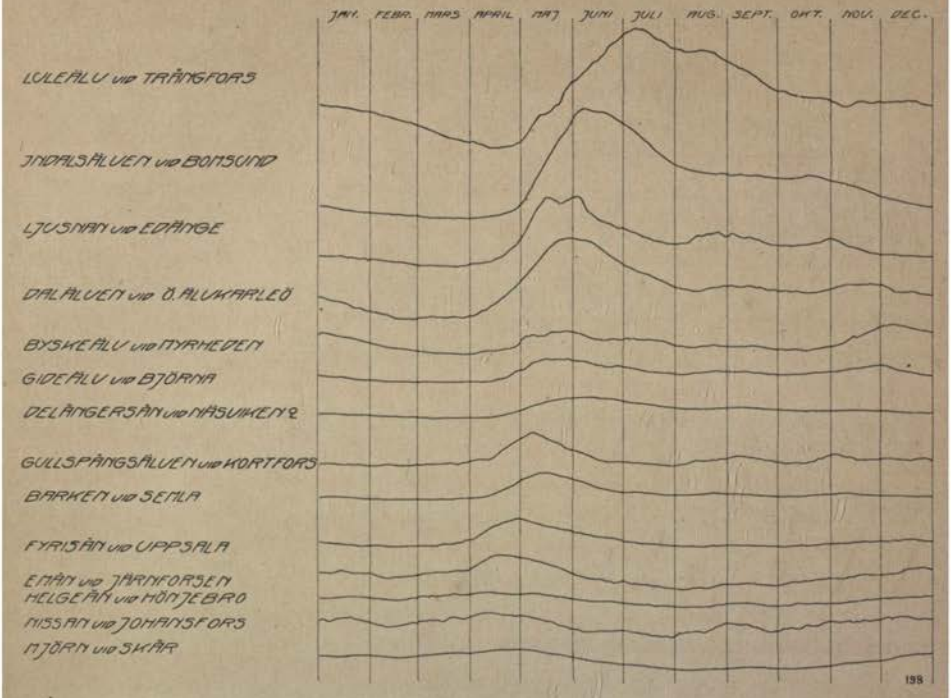
b. *western* (the River Nissan at Johansfors; the Mjörn at Skår).

E. **The rivers of Skåne.**

F. **The great lakes,** Hjälmaren, Mälaren, Vättern and Vänern, with their **discharge-rivers** (the Norrström at Stockholm; the Motalaström at Motala; the Götaälv at Trollhättan).

The annual variations in the discharges of the rivers of Sweden are extremely conspicuous, the most prominent factor of this phenomenon being the melting of the snow which has accumulated during the winter. Very naturally, there is a great difference in this respect between the northern and the southern parts of the country. As a rule, however, the annual variations in the water-level are marked by one or more high-water periods occurring in the spring with, very often, a secondary high-water during the autumn in connection with diminished evaporation and the secondary

Variations in Levels of Swedish Rivers.



maximum of precipitation. Low-water occurs during the latter part of the winter and in the summer. Great differences prevail, however, as regards the relative proportion between these high-water and low-water levels, and the dates of their normal occurrence, the question being, therefore, one of very great interest. Very characteristic, too, are the absolute and the normal extent of the variations in questions, i. e., the difference between the highest and the lowest known levels, and the normal high- and low-water levels, respectively.

In the Diagram are given the average variations in a number of Swedish rivers, which can be considered as typical of the groups mentioned above. They have been drawn to show the average for every day during a long period. It is clear that they show only the most conspicuous variations, but not their details.

In Table 3 are given the values of the gauge-heights and the average dates of the appearance of the winter- and the summer low-water levels; of the spring, autumn, and winter high-water levels, and the amount of the variations.

In Table 4 is a summary of a number of characteristic discharges. The values given must not be considered definite, as, at present, the investigations have not been sufficiently numerous. The data given are: those of exceptional high-water discharge or highest known discharge; the normal high-water discharge, or the mean, for several years, of the highest discharges occurring every year; the average discharge, or the mean for several years of the annual average discharge; the normal low-water discharge, the mean for several years of the lowest discharge occurring every year; exceptional low-water discharge, or the lowest known discharge; the quotients between exceptional maximum and mini-

mum discharges, between maximum and mean discharges, and between mean and minimum discharges. The discharges are given, partly in cubic meters per second and partly in second-liters per square kilometer (sl per sq. km) while the mean run-offs are also given in millimeters.

The hydrographic conditions of the **mountain rivers of Sweden** derive their characteristics from the high mountains, with the large precipitation. A permanent covering of snow of a considerable depth remains, as a rule, for more than half the year. In consequence, the spring-floods are of dominating importance, while, at the same time, there exists a most marked and lengthy period of low-water during the winter when only a small atmospheric precipitation is received by the rivers, which are fed by the waters that are stored up in the lakes and the subterranean supplies. The result of this is a great annual variation, which, as a rule, is largest in the most northerly rivers. The absolute variation amounts to between 4—6 meters. The winter water-level falls considerably below that of the summer, and this difference increases the farther north one goes. The date of the lowest winter-level is retarded, too, towards the north.

The gradual melting of the snow, during the spring and the early part of the summer, in the large river basins with their varying height conditions, has the result that the spring flood is of long continuance and, as a rule, is divided into several distinct floods. In the northern rivers we have the typical occurrence of three, viz., "the home flood", occasioned by the melting of the snow in the lower parts of the country; the "mountain flood", which is the result of the melting of the snow at higher levels, and, finally, the "summer flood", to which the melting of the snow in the very highest part of the mountains contributes. In the southern rivers, again, it is, as a rule, only the first two of these that occur, and these often unite to form one flood, which, in such cases, often assumes very great dimensions. As a rule, the maxima of the spring floods are higher the farther north one goes. As a rule, they occur at an earlier date in the more southern rivers, although the volume of water stored by the lakes can occasion variations in this respect, too.

By means of the numerous large lakes existing in, and immediately below, the mountain regions, a large volume of water is stored up, serving to provide a relatively large water-supply during the summer, so that the summer low-water level is comparatively high. This height, as compared with the average level, grows less and less, however, the farther south one goes.

The early period of the autumn at which the snow begins to lie permanently and accumulate, has as a result that the autumn high-water levels are inconsiderable, as a rule. As the figures in the table show, however, they become more apparent the farther southwards one proceeds.

The discharges of the rivers is considerable, but, as a rule, it varies very much during the course of the year. The head of exceptional high-water is, thus, from 30 to 80 times as great as that of the corresponding low-water, differences in this case depending more especially on the percentage of water stored up by the lakes. (The figures, however, are somewhat unreliable, as, very often, there exist no trustworthy measurements for high-water maxima.) The mean run-off is, probably, greatest in the basin of the Luleälv, where it amounts to 19·5 second-liters per square kilometer, which corresponds to a mean water-depth of 620 millimeters on the total drainage-area. This fact stands in connection with the great precipitation in the mountain regions of the basin (vide p. 43). The run-off diminishes towards the south (the Umeälv = 540 millimeters), but rises again in the basin of the Indalsälven (590 millimeters), where the high mountain district, in consequence of its vicinity to the sea, has a greater precipitation. Thence they diminish considerably in the region of the southern river-basins of Norrland (the River Ljusnan = 370 millimeters),

TABLE 3. *Characteristic Levels of the Water in*

River or Lake	Station	Winter low-water		Spring high-water	
		Date	Height	Date	Height
Luleälv	Trångfors	22 April	— 172	3 July	+ 256
Indalsälven	Bomsund	29 March	— 116	6 June	+ 264
Ljusnan	Edänge	29 »	— 68	19 May	+ 215
Dalälven	Älvkarleö	15 »	— 105	31 »	+ 182
Byskeälv	Myrheden	7 April	— 38	21 »	+ 75
Gideälv	Björna	25 March	— 41	18 »	+ 75
Delångersån	Näsviken	31 »	— 25	5 June	+ 42
Södra Barken	Semla	8 »	— 23	17 May	+ 76
Fyrisån	Uppsala	1 »	— 33	16 April	+ 106
Emån	Järnforsen	14 Febr.	— 15	17 »	+ 95
Helgeån	Hönjebro	10 »	— 11	31 March	+ 42
Nissan	Johansfors	14 »	— 23	4 April	+ 71
Mjörn	Skår	24 »	— 10	15 »	+ 46

the stream named having, probably, the lowest run-off of all the mountain rivers. The figures rise again for the mountain rivers of Central Sweden (the Dalälven = 430; the Klarälven = 450 millimeters), owing to the large precipitation in the mountainous districts on the boundaries between Dalarne, Värmland, and Norway, and in Western Bergslagen. The run-off probably amounts to between 50 and 75 % of the rainfall.

The exceptional high-water discharges vary between 69 and 140 second-liters per square kilometer, but, as was mentioned above, they are somewhat uncertain. The normal high-water discharges vary between 39 and 88 second-liters per square kilometer. The normal low-water volumes remain at about 3—4 second-liters per square kilometer; the exceptional ones fall to 1·5—3 second-liters per square kilometer.

The forest- and littoral rivers present far fewer variations. In the type-rivers given in Table 3, for instance, the absolute variations lie between 113 and 202 centimeters. The winter low-water level in these rivers, too, is the lowest of the year, but the summer level also falls considerably, and, in the case of the Central Swedish streams especially, it is, as a rule, about as low as that prevailing in the winter. This is connected with the far more transient and earlier spring-floods, as well as with the greater evaporation from the tracts with abundant forests and bogs. In consequence of the smaller extent of these basins and of their uniform character, there is, as a rule, only one flood in the springtime, with its maximum usually about the middle or the end of May. Autumn high-water is a frequent occurrence. The curves in the Diagram show, especially for these rivers, the rise of level which occurs during the winter as a result of the extensive damming of the waters occasioned at that season by the ice, and which plays an extremely important rôle in these streams with their narrow beds and inconsiderable calm-water basins.

The average run-off is considerably lower than that of the mountain rivers, this being the case especially in Norrland, in the eastern parts of which the rainfall is not so great (the Byskeälv = 340 millimeters). It is greatest in the West-Central Swedish rivers, which discharge their waters into Vänern (the Gullspångsälven = 460 millimeters), the run-off from which is even greater than that of the highland rivers of Central Sweden. The run-off percentage probably varies between 40 and 60 %.

The high-water discharges appear to be relatively low, the result, probably, of

a number of Swedish Streams:

Summer low-water		Autumn high-water		Winter high-water		Average variation	Absolute variation
Date	Height	Date	Height	Date	Height	cm	cm
30 Sept.	+ 12	22 Oct.	+ 17	—	—	427	570
9 »	— 15	22 »	+ 36	—	—	385	536
3 »	— 23	10 »	+ 58	—	—	371	430
6 »	— 44	24 »	+ 65	—	—	298	439
24 Aug.	— 32	6 »	— 11	—	—	150	202
21 »	— 15	30 Sept.	+ 15	—	—	119	175
8 Sept.	— 10	23 Oct.	+ 8	—	—	78	113
3 »	— 23	26 »	+ 26	—	—	118	183
27 Aug.	— 34	18 Nov.	+ 29	—	—	156	290
18 »	— 51	30 Oct.	+ 25	8 Jan.	+ 55	149	250
22 »	— 34	28 »	+ 15	15 »	+ 34	82	121
14 »	— 57	17 »	+ 59	12 »	+ 62	140	195
9 Sept.	— 39	8 »	+ 12	21 »	+ 43	116	184

the draining-areas abounding in forest- and bog areas. The low-water discharges, on the other hand, fall in exceptional cases to 1 second-litre per square kilometer.

In **the lowland rivers of Central Sweden** the variations of the discharges are of a more southern type, with the summer and winter low-water levels about equal. The spring level of the water is decidedly the highest of the year, and occurs, on an average, about the middle of April. As a rule, there is an autumn flood, too. The amount of the variation is very different, violent floods occurring in rivers possessing but few lakes, on a surface stratum which often largely consists of clay.

The run-off is further diminished, as compared with that of the preceding groups, and remains as a rule (the Fyrisån = 230 millimeters; the Nyköpingsån = 200 millimeters) at between 5 and 10 second-liters per square kilometer, the amount of water carried off by the western rivers being considerably greater than that discharged by the eastern. The run-off percentage falls to 30—40 %. The highwater discharges are often very great (150—200 second-liters per square kilometer) in the plains where there are few lakes; the low-water discharges, on the other hand, are very low (< 1 second-liter per square kilometer).

The rivers of the **Highlands of Småland** have the character of forest rivers, but their southerly situation gives the variations of water-level a southern type, with a distinctive summer low-water and a winter low-water of less importance. As a rule, the former reaches its minimum about the middle of August, and the latter as early as in the middle of February. The spring high-water, which, in general, reaches its maximum by the close of March or the early days of April, is, it is true, the highest of the year as a rule, but the autumn- and winter floods are, on an average, not much lower.

In general, the average run-off is higher than that of the former group. A great difference prevails between the eastern and the western rivers. In the former, the run-off often falls below 10 sl per sq. km, especially on the northern and eastern slopes, or else remains at about that figure (the Helgeån 11 second-liters per square kilometer = 350 millimeters). In the western rivers, again, the run-off is very great and even exceeds that of the larger number of the mountain rivers (the River Nissan = 17·3 second-liters per square kilometer = 550 millimeters). This is connected with the strongly marked precipitation maximum on the western slope of the Småland Highlands. The run-off percentage probably varies between 30 and 60 %. The high-water discharges are not especially great,

TABLE 4. *Volume of Water Discharged*

Stream	Basin	Lakes %	Maximum discharge			
			Exceptional		Normal	
	sq. km	%	cubic. m per sec.	sl per sq. km	cubic. m per sec.	sl per sq. km
Luleälv at Trångfors	24 600	8	2 600	106	1 770	72
Umeälv » Vännäs	13 600	7	1 390	102	950	70
Indalsälven » Bomsund	19 800	10	2 360	119	1 630	82
Ljusnan » Edänge	13 800	3	1 920	140	1 210	88
Dalälven » Älvkarleö	29 000	6	2 000	69	1 130	39
Klarälven » Dejefors	11 000	6	1 330	121	—	—
Byskeälv » Myrheden	2 400	4	160	64	100	42
Gullspångsälven » Åtorp	4 400	11	380	84	310	70
Fyrisån » Uppsala	2 000	3	170	130	55	43
Nyköpingsån » Nyköping	3 600	16	93	26	60	17
Helgeån » Kristianstad	4 000	5	200	50	137	34
Nissan » Johansfors	2 400	4	150	62	117	49
Norrström » Stockholm	22 300	13	—	—	—	—
Motalaström » Motala	6 300	36	81	12·9	60	9·5
Götaälv » Trollhättan	47 400	20	900	19·0	—	—

being, as a rule, about 60 second-liters per square kilometer. The normal low-water remains at about 2—4 second-liters per square kilometer. The exceptional ones fall to 1—3 second-liters per square kilometer.

The rivers of Skåne present a still more decided southern type in the variations of the water-levels, with low summer-water and high winter-water. The run-off remains at somewhat above 10 second-liters per square kilometer. The variations in the small clayey districts which have few lakes are large, and high-water discharges may amount to 150—200 second-liters per square kilometer, while the low-water discharges fall below 1 second-liter per square kilometer. The run-off percentage probably amounts to about 30—35 %.

The variations in the volume of the waters of **the great lakes and their discharge-rivers** are of such varying character, that they must be referred to a special hydrographic group. One thing they have in common is a small annual average variation (30—40 centimeters), but a considerable sabolute variation (1—3 meters). This is connected with their great storage capacity, and the consequent adjusting influence on the variations in the precipitation and the water discharges into the lakes by the rivers. In consequence, they serve to reflect fluctuations of long duration in the rivers but do not react to those of shorter duration. Among such fluctuations, the most important seem to be one with an average duration of somewhat more than 2 years, and another with a periodicity of 11 years, but which is of such a character that, during the period in question, two maximum and two minimum points are reached. The variations in the water-level are most affected by these long-lasting periods in Lake Vänern, and least by Lake Mälaren. On an average, the early period reaches its maximum in Lake Mälaren during the month of May; in Lake Vänern in June or July, and in Lake Vättern not before August or September, the last-mentioned anomaly having, probably, to be ascribed to the character possessed by Lake Vättern of being a lake well supplied with springs and with large subterranean resources.

by a number of Swedish Streams:

Average discharge			Minimum discharge				Proportion between:		
			Normal		Exceptional		Maximum and minimum discharge	Average maximum- and mean discharge	Mean and average minimum discharge
cubic. m per sec.	sl per sq. km	mm	cubic. m per sec.	sl per sq. km	cubic. m per sec.	sl per sq. km			
480	19·5	620	57	2·3	40	1·6	65	3·7	8·4
230	17·1	540	42	3·1	20	1·5	70	4·1	5·5
370	18·6	590	78	3·9	65	3·3	36	4·4	4·7
160	11·6	370	45	3·3	25	1·8	77	7·6	3·6
394	13·6	430	128	4·4	61	2·1	33	2·9	3·1
157	14·2	450	—	—	23	2·1	58	—	—
26	11·3	340	4·2	1·8	2·5	1·0	64	3·8	6·2
64	14·5	460	18	4·1	7·5	1·7	51	4·8	3·6
9·3	7·2	230	2·1	1·6	1·1	0·8	155	5·9	4·4
23	6·4	200	7·8	2·2	3·6	1·0	26	2·6	2·9
44	11·0	350	8·7	2·2	6·0	1·5	33	3·1	5·1
41	17·3	550	7·5	3·1	5·2	2·2	29	2·9	5·5
200	9·0	280	—	—	—	—	—	—	—
45	7·1	220	30	4·8	18	2·9	4·5	1·3	1·5
500	10·5	330	—	—	—	—	—	—	—

In Lake Vättern there occur strongly marked daily variations, which are the result of the occurrence of stationary, periodical waves, "seiches". The amplitudes of the chief oscillations are, as nearly as possible, 3 hours.

The run-off of the rivers that discharge the waters of the lakes is relatively small, this being due to the great evaporation from the lakes. Thus, in the Norrström, it falls to 9 second-liters per square kilometer (280 millimeters); in the Motalaström to 7·1 second-liters per square kilometer (220 millimeters), and in the Götaälv to 10·5 second-liters per square kilometer (330 millimeters). The variations, on the other hand, are very small, the high-water discharges, therefore, being small, and the low-water discharges large. In the Motalaström, for example, the maximum discharge is only 4·5 times, and, in the Götaälv, only 2·7 times that of the minimum discharge. The run-off percentage probably amounts to about 40 %.

3. CLIMATE.

Of the whole area of Sweden, 65 000 sq. km or about 15 %, are situated north of the Arctic Circle, the remainder lying within the temperate zone. As has been mentioned in the foregoing pages, Scandinavia enjoys a most favourable climate considering its northerly situation. The chief cause of this is to be found in the warm seas which wash the coasts of the west of Europe, and which themselves receive their warmth from the Gulf Stream.

TABLE 5. *Mean Temperatures for some Places in Sweden.* Celsius.

Station	N Lat.	E Long. from Greenwich	Height above sea-level in meters	January	April	July	October	The whole year
Karesuando . .	68°27′	22°29′	333	— 14·6	— 5·0	12·0	— 2·7	— 2·8
Riksgränsen . .	68 25	18 7	522	— 10·5	— 4·6	10·0	— 2·0	— 2·1
Kiruna	67 51	20 14	507	— 12·3	— 3·9	11·3	— 2·6	— 2·2
Gällivare . . .	67 8	20 40	365	— 12·9	— 2·1	13·6	— 1·1	— 1·1
Jokkmokk . . .	66 36	19 51	255	— 14·4	— 1·3	14·3	— 1·2	— 1·0
Haparanda . .	65 50	24 9	9	— 11·0	— 1·7	14·9	1·5	0·5
Piteå	65 19	21 29	10	— 9·8	— 0·1	15·5	2·2	1·7
Stensele	65 4	17 10	328	— 12·0	— 0·8	13·9	0·2	0·0
Umeå	63 49	20 17	12	— 8·1	— 0·1	14·9	2·7	2·1
Storlien	63 19	12 6	593	— 7·0	— 0·5	10·6	1·2	0·6
Östersund . . .	63 11	14 39	330	— 8·3	0·7	13·6	2·7	2·0
Härnösand . .	62 37	17 57	15	— 6·3	1·1	15·1	4·2	3·4
Sveg	62 3	14 25	345	— 10·2	1·0	14·2	1·5	1·4
Bjuråker . . .	61 52	16 34	72	— 7·0	1·5	15·4	3·7	3·3
Särna	61 41	13 7	436	— 11·6	0·4	13·7	1·4	0·9
Gävle	60 40	17 10	10	— 4·2	2·5	15·9	4·9	4·6
Falun	60 37	15 38	116	— 6·0	2·5	16·2	4·5	4·2
Uppsala[1] . . .	59 51	17 38	24	— 4·1	2 9	16·3	5·1	4·9
Västerås . . .	59 37	16 33	18	— 3·7	3·3	16·9	5·6	5·4
Nora	59 27	15 3	91	— 4·6	2·9	16·3	5·2	4·9
Karlstad . . .	59 23	13 30	55	— 3·2	3·7	16·9	6·1	5·8
Stockholm . . .	59 21	18 35	44	— 2·8	3·2	16·6	6·3	5·7
Örebro	59 16	15 13	35	— 3·3	3·7	16·6	5·6	5·6
Strömstad . . .	58 56	11 11	9	— 1·8	4·8	17·1	7·1	6·7
Askersund . .	58 53	14 54	96	— 3·2	3·3	16·0	5·7	5·4
Nyköping . . .	58 45	17 1	17	— 2·6	3·4	16·6	6·2	5·8
Linköping . . .	58 25	15 38	68	— 2·3	4·2	17·0	6·4	6·2
Skara	58 24	13 27	115	— 2·9	3·8	15·7	5·7	5·5
Vänersborg . .	58 23	12 20	54	— 2·1	3·8	16·5	6·5	6·1
Jönköping . . .	57 47	14 10	95	— 1·8	3·7	16·1	6·7	6·1
Västervik . . .	57 46	16 39	13	— 1·6	3·9	16·7	7·1	6·5
Gothenburg . .	57 42	11 58	9	— 0·4	5·5	16·9	8·0	7·4
Visby	57 39	18 18	16	— 0·3	3·6	16·1	7·9	6·7
Växjö	56 53	14 49	168	— 2·4	4·2	16·2	6·3	6·0
Halmstad . . .	56 40	12 52	10	— 0·8	5·3	16·9	7·9	7·3
Kalmar	56 40	16 22	7	— 1·0	4·2	16·9	7·9	6·9
Ronneby . . .	56 13	15 17	6	— 1·1	4·8	16·4	7·6	6·8
Karlshamn. . .	56 10	14 52	13	— 0·6	5·0	16·7	7·9	7·2
Kristianstad . .	56 2	14 10	10	— 0·7	5·2	16·7	8·0	7·2
Lund[2]	55 42	13 12	38	— 0·8	5·1	16·4	8·0	7·2

This is the immediate cause of a peculiar distribution of barometric pressure, the result of which is that south-westerly winds, coming from the warm seas, prevail over the whole of North-Western Europe, especially during the winter. This gives rise to an abnormal increase of the winter temperature on the Norwegian coast and to a considerable amelioration of the cold season of the year in the interior and eastern portions of the Scandinavian peninsula.

The great length of Sweden from north to south, equivalent to more than $^1/_7$ of the distance from the North Pole to the Equator, is in itself sufficient to produce considerable climatic differences between the north and the south of the country, which are further increased by two other causes.

[1] Meteorological observatory. — [2] Astronomical observatory.

One is that the north of Sweden is cut off by the Scandinavian mountain range from the warming influence of the south-west winds, and the other, that the general height of the north of Sweden above the sea is greater than that of the south of the country. In consequence of this, the mean annual temperature of the far north of Sweden is somewhat lower than freezing point, while on the south and south-western coasts it rises to 7° C., or even a little more. The Table 5 gives the *mean temperatures* for some places in Sweden during January, April, July, and October, as well as for the whole year, according to observations made during the 54 years 1859—1912. As, however, observations have been made during the whole of the period in question only at some of the places, the mean temperature for the others has been calculated from the difference between the temperatures at one of these places and those at a neighbouring station where observations have been made during all these 54 years.

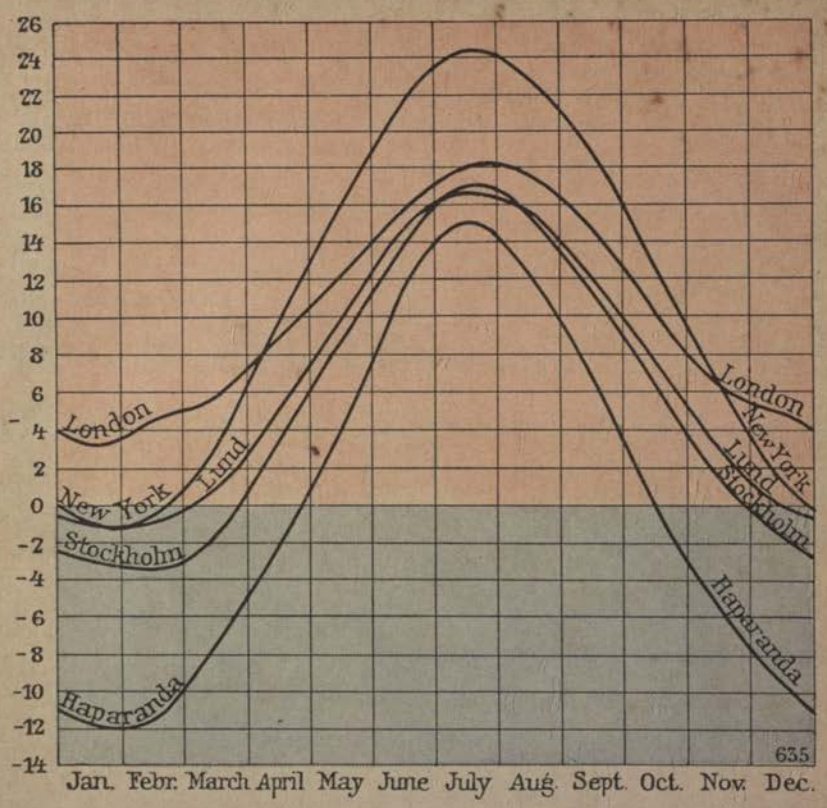
For the sake of comparison it may be added that the mean annual temperature in Berlin (the centre of the city) is 9·1°; that in London (Greenwich Observatory) 10·0°; in Paris (the centre of the city) 10·7° and in New York (Central Park) 11·3° C.

Lack of space prevents the insertion in the Table of the mean temperatures for all the months of the year, but those for January and July, respectively, give a good idea of the winter cold and the summer heat, while the figures for April and October show how the spring and the autumn approach the mean annual temperature. As the stations given in the Table are arranged from north to south, a good idea is also obtained of the increase in temperature from north to south, which, from Lappland to Southern Sweden, amounts to 14° in January, 10° in April and October, but to no more than 6° during July. But the height above the sea influences the temperature, which, on an average, falls 1° for each 200 meters' increase in height. The distance from the sea has some influence, too, as we find by Table 6 below, in which the temperatures are

TABLE 6. *Mean Temperatures reduced to Sea-level.* Celsius.

Station	January	April	July	October	The whole year
Jokkmokk . . .	— 13·1	0·0	15·6	0·1	0·3
Haparanda . . .	— 11·0	— 1·7	14·9	1·5	0·5
Stensele	— 10·4	0·8	15·5	1·8	1·6
Piteå	— 9·8	— 0·1	15·5	2·2	1·7
Umeå	— 8·0	0·0	15·0	2·8	2·1
Storlien	— 4·0	2·5	13·6	4·2	3·7
Östersund . . .	— 6·6	2·4	15·3	4·4	3·7
Sveg	— 8·5	2·7	15·9	3·2	3·1
Härnösand . . .	— 6·2	1·2	15·1	4·2	3·4
Särna	— 9·4	2·6	15·9	3·6	3·1
Gävle	— 4·2	2·5	15·9	4·9	4·6
Växjö	— 1·8	5·0	17·0	7·1	6·8
Kalmar	— 1·0	4·2	16·9	7·9	6.9

Mean Temperature for each day in the year. Celsius.



reduced to sea-level. Of two stations, one in the interior of the country and the other on the east coast, the two lying in the same latitude, the former, as we can see by Table 6, has a colder winter and autumn but a warmer spring and a somewhat warmer summer than the latter. Only Storlien and Östersund have a warmer winter and autumn, and Storlien a cooler summer than a corresponding station on the east coast, this being the result of the influence of the Atlantic and the winds from that ocean. A good idea is obtained of the yearly variations of the temperature by studying the curves in the accompanying diagram, which give the mean temperatures for every day of the year for the 50-years' period 1849—98, at Lund, Stockholm and Haparanda, and, for the sake of comparison, in London, too, as well as in New York for the 44-years' period 1869—1912. It is seen that July is everywhere the warmest month, while at the three Swedish stations it is February, but in London and New York, January is the coldest. During February, the temperature at Haparanda is as much as 16° lower than it is in London, while the difference during July amounts to only 3°. Stockholm, in February, is 8° colder than London, while the mean temperatures of the two cities for the month of July are 16·9° and 17·9° respectively. Thus we see that the summer of Sweden, a country lying far to the north, although short, is not much inferior to that of the South of England, as regards temperature. This fully explains why it is possible, in Sweden, to carry on agriculture successfully north of the Arctic Circle, even where the mean temperature of the year is below freezing point. As to New

York, it is seen that its winter temperature is about the same as that of Lund, whereas its summer temperature is 7 or 8 degrees higher than that of Lund.

The shortness of the Swedish summer is, moreover, counterbalanced to a considerable degree by the *length of the summer days* and their *abundant sunshine*, whose beneficent influence on both animal and vegetable life is most conspicuous in such a very northerly country as Sweden. At Karesuando (68° 27′ N Lat.), the sun remains above the horizon during 53 successive days, from May 26 to July 18; at Haparanda, at the summer solstice, a little more than 23 hours; at Stockholm 18½ h., and at Lund 17½ h., and so on. This is partly due to atmospheric refraction, which increases the average length of the day by 30 minutes in the northern, and by 15 minutes in the southern part of Sweden, the corresponding figure at the Equator being only 4 minutes. Still more important is the influence of the twilight, which adds several hours to the length of the day during the summer in the north of the country. In fact, there is uninterrupted daylight as far south as Härnösand (62° 37′) from the 16 to the 27 June.

Thus the Swedish summer, especially in the north, is a season of nearly uninterrupted daylight. These light summer-evenings and nights, when all nature seems to have fallen into a quiet dream, have a magic beauty of their own and — for a stranger from southern lands especially — constitute one of the most enchanting and lasting memories he receives.

The beneficent influence of the summer light in Sweden is still more increased by the considerable number of hours of bright sunshine, which, during the month of June, for example, is greater at Jokkmokk, in the interior of Lappland, than at Rome or Madrid. This is explained by the length of the time during which the sun is above the horizon, and also by the relative scarcity of clouds in Sweden at this time of year. On an average for the whole country, only 50 % of the sky is covered with clouds during the month of June, as compared with 74 % in December. This phenomenon, of which the cause is unknown, has an exceptionally favourable influence on the climate of Sweden, for the heating effect of the sun's rays is thus relatively unimpaired in summer, whereas the loss of heat caused by radiation is considerably diminished in the winter season, which results in a relatively hot summer and only a moderately cold winter. In the interior and the north of the peninsula, there are, however, two regions where radiation during winter is less restricted by clouds, while the warm south-westerly winds are shut out by the Scandinavian mountain-range, and here, consequently, during that season, two centres of cold are formed, which are of importance for the winter climate of Sweden. One of them, the smaller and warmer, has its centre at 62° N Lat., north of Christiania. It embraces Härjedalen and north Dalarne in Sweden, and, in Norway, the district south and west of Röros. The mean temperature for January in this centre is below — 13 ° and, during very severe winters, has even fallen as low as — 20°. The other "cold-centre", which is larger and colder, lies in north Lappland and

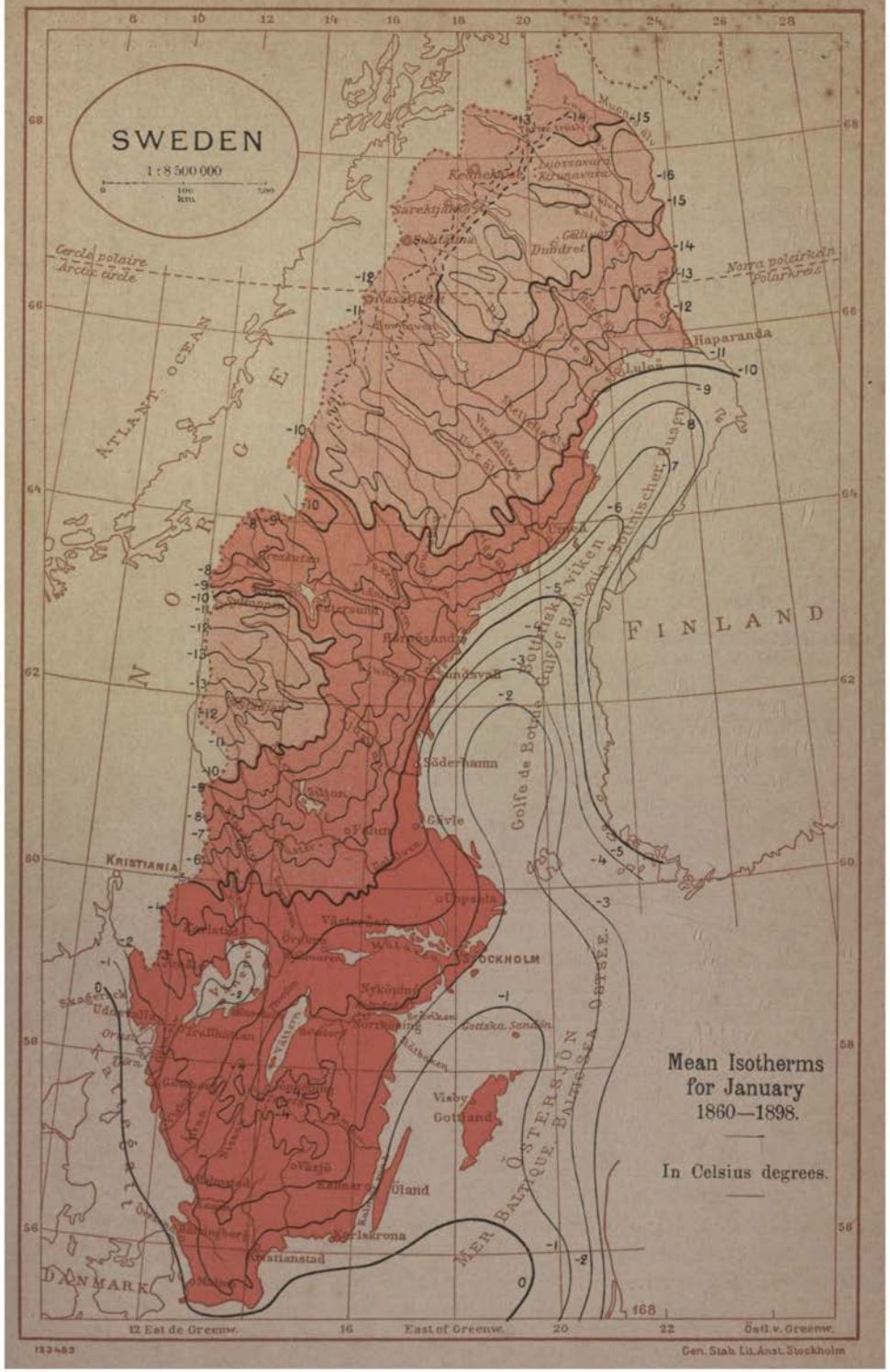


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TABLE 7. *Length of the Seasons at some Places in Sweden.*

Station	N Lat.[1]	Dates when each season begins				Length of the seasons in days			
		Winter	Spring	Summer	Autumn	Winter	Spring	Summer	Autumn
Karesuando .	68°27′	6 Oct.	9 May	21 June	17 Aug.	215	43	57	50
Jokkmokk .	66 36	11 Oct.	23 April	8 June	27 Aug.	194	46	80	45
Haparanda .	65 50	22 Oct.	26 April	8 June	4 Sept.	186	43	88	48
Umeå . . .	63 49	30 Oct.	17 April	4 June	7 Sept.	169	48	95	53
Sveg	62 3	23 Oct.	11 April	1 June	2 Sept.	170	51	93	51
Uppsala . .	59 51	15 Nov.	1 April	23 May	18 Sept.	137	52	118	58
Stockholm .	59 21	26 Nov.	27 March	23 May	24 Sept.	121	57	124	63
Örebro . . .	59 16	20 Nov.	27 March	18 May	20 Sept.	127	52	125	61
Strömstad .	58 56	4 Dec.	20 March	14 May	28 Sept.	106	55	137	67
Jönköping .	57 47	5 Dec.	21 March	23 May	24 Sept.	106	63	124	72
Västervik .	57 46	11 Dec.	16 March	21 May	29 Sept.	95	66	131	73
Gothenburg .	57 42	27 Dec.	7 March	12 May	4 Oct.	70	66	145	84
Visby . . .	57 39	1 Jan.	16 March	28 May	2 Oct.	74	73	127	91
Växjö . . .	56 53	29 Nov.	21 March	17 May	23 Sept.	112	57	129	67
Lund . . .	55 42	21 Dec.	3 March	14 May	3 Oct.	72	72	142	79

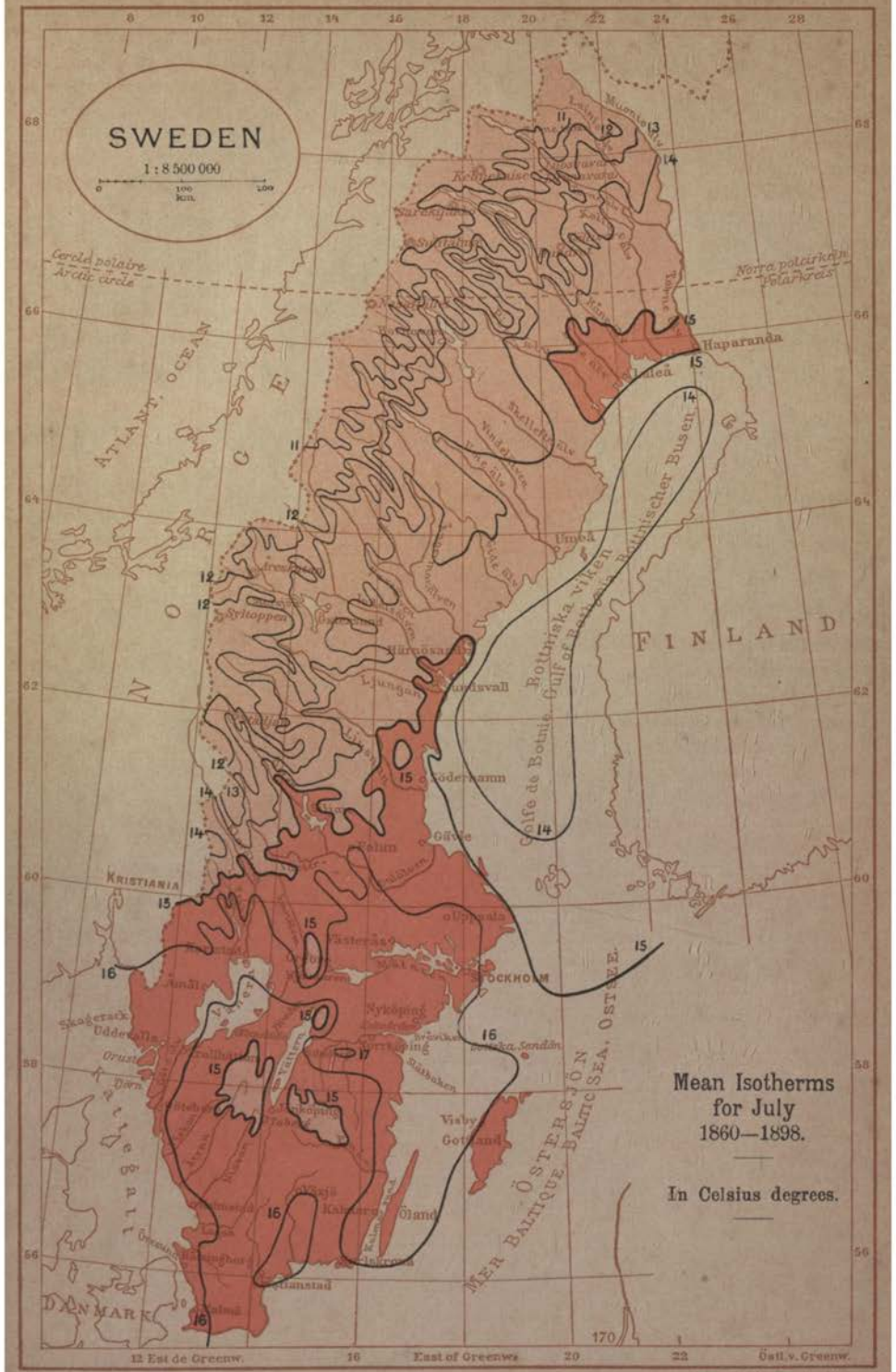
touches both Sweden, Norway, and Finland. Here the mean temperature for January is below — 16°, and, in unusually severe winters, has gone down as low as —25·5°. In order to find so low a temperature for January in any other part of Europe, we must go as far east as to Petschora.

The facts mentioned above are graphically demonstrated on the two accompanying maps, which show the mean temperatures in Sweden, for the months of January and July, during the period 1860—98. The isotherms on these maps show the mean temperatures actually observed and not after reduction to sea level. This explains the zig-zag course of the curves, which also approximately and roughly indicate the orographic configuration of Sweden.

Above is given the Table 7 showing the various lengths of the seasons at different places in Sweden. For the expression "seasons" we shall assume the following definitions, which correspond pretty nearly to what, in the popular opinion in Sweden, characterizes the four divisions of the year there, though they are not applicable to a climate warmer than the Swedish and are not in agreement with the terminology adopted in meteorology. "Summer", then, is that part of the year during which the mean daily temperature of any place is higher than 10°; "winter", the time when this temperature remains below freezing point, and "autumn" and "spring", the intermediate periods.

In the northernmost part of Sweden, therefore, summer does not begin before midsummer time and lasts scarcely two months, autumn commencing about the middle of August. In the south- and south-western littoral districts, on the other hand, summer begins towards the middle of May and lasts until the first days in October, the length of the summer in this part of Sweden, consequently, being about 4, and, in some places, as much as 4 1/2 months.

[1] As regards the longitude east from Greenwich and the height above the sea, both of which, of course, are here of great importance, see Table 5.



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In the north of Lappland winter lasts no less than seven months, viz., from October to May, whereas in South Sweden and the island of Gottland its length is not more than 2 1/2 months. In Stockholm, winter begins on November 26, spring on March 27, summer on May 23 and autumn on September 24. Spring and autumn thus last two months each; summer and winter four each. The island of Gottland is distinguished by the great length of its autumn, winter not beginning there before January 1, which is later than at any other place in the country. The spring of the island in question, too, lasts long, and yields only slowly to summer. These peculiarities of climate are due, of course, to the influence of the Baltic. An inspection of the table shows that the same phenomenon, although less markedly, exists at other places on the sea coast in Sweden.

The length of the period free from *night-frosts* is of great importance for vegetation. The early night-frosts at the end of summer are the most dangerous enemies of the farmer in several Swedish provinces, especially in Norrland. At Karesuando, the last spring-frost comes, on an average, on June 15, and the first autumn-frost on August 27, there being, consequently, only 72 days free from frost. In the environs of Stockholm, on the other hand, 4 1/2 months are free from frost, and in the island of Ven, in the Sound, no less than 6 months are characterized by an absence of frost. Also in this respect then, the climate shows itself, as a rule, to be more favourable the farther south one goes, the period free from night-frosts growing longer and longer. There are some remarkable exceptions, however. Not only Sveg in Härjedalen, which is so cold, but also Skeppsholmen (57° 51′ N. Lat.; 13° 39′ Long. E. from Gr.), in the south of Älvsborg Län, has a shorter frost-free period than northern Lappland, that at Sveg lasting from June 15 to August 13, or only 58 days, and that at Skeppsholmen from June 20 to August 25, i. e., no more than 65 days. In both these places night-frosts are not uncommon in July, a month which, even at Karesuando and Jokkmokk, is, as a rule, free from frost. The reason why the far north of the country is comparatively free from frost during the middle of summer is undoubtedly the fact of the nights there being so short at that period. In the preceding calculations "frost" has been taken to denote the falling of the minimum thermometer to, or below, 0° C. (freezing point). But the observations made show that night-frosts, as a rule, do not cause any damage worth mentioning before the minimum thermometer has reached — 1°, in which connection it should also be noted that, in consequence of radiation during the night, the ground is, as a rule, cooled to a greater degree than is the thermometer, which is placed at least one meter above the ground and is protected against radiation by means of a kind of roof.

Generally speaking, it may be said that the climate of Sweden lies midway between the continental and the maritime types. The climate of the northern part of the country, however, has a greater resemblance to the former type and that of the southern provinces to the latter. The difference between the winter and summer temperatures in Sweden is much greater than in Western Europe, but much less than in the interior of Russia or in Siberia. The absolute summer maximum amounts to 30° C. for most years and stations, whereas the absolute winter minimum falls to —15° or —20° C. in the south, and to —30° or —40° C. in the north of Sweden. In the neighbourhood of "the centres of cold", it is not rare that mercury freezes, and the alcohol thermometer has been observed to fall to nearly — 50° C. It may be seen, however, from the

tables of mortality, that the severe winters of Sweden are not unhealthy, and it is clear that the nations of South Europe suffer more from excess of heat than those of North Europe do from excess of cold. The northern winter has, too, its particular charms, which are scarcely less than those of summer.

Photo. Fr. G. Klemming, Stockholm.

An Autumn Evening. Stockholm.

Snow falls everywhere in Sweden every winter, but the time during which the ground remains covered with snow varies considerably from province to province, and from one year to another. In Skåne, on an average, the snow remains on open plains only 47 days; in the rest of Götaland this figure becomes 50 to 93 days; in Svealand, 86 to 140 days; in the south of Norrland, 140 to 170 days, and in the north of Norrland, 170 to 190 days. In the severe winter of 1880—81, snow covered the ground in the Län of Stockholm for 166 days, but, in the mild winter of 1881—82, for no longer than 33 days. As a rule, snow remains on the ground longer in the forests than on the plains, the difference in time varying from 2 to 15 days.

The snow-covering plays a very important part in the forest-economy of Sweden, on account of the great help it affords for the transport of timber in the vast forests of the country. For this reason, the absence of a snow-covering during the winter is in some provinces considered to be a calamity almost comparable to failure of the crops. The snow-covering also protects the soil against a too great loss of heat and, to a very great extent, prevents the penetration of the frost into the earth, but, on the other hand, it lowers the temperature of the air. Furthermore, it forms a stored supply of water, which, on melting, replenishes springs, rivers and lakes.

The **ice-covering** of the lakes remains, on an average, about 115 days in the southern part of Sweden, 150 days in Central Sweden, and 200 days, or still longer, in the North. The break-up of the ice occurs in April in Southern and Central Sweden, whereas in the North it takes place as late as in May or June. The waters freeze in November or December and in the north-eastern part of Norrland as early as in October.

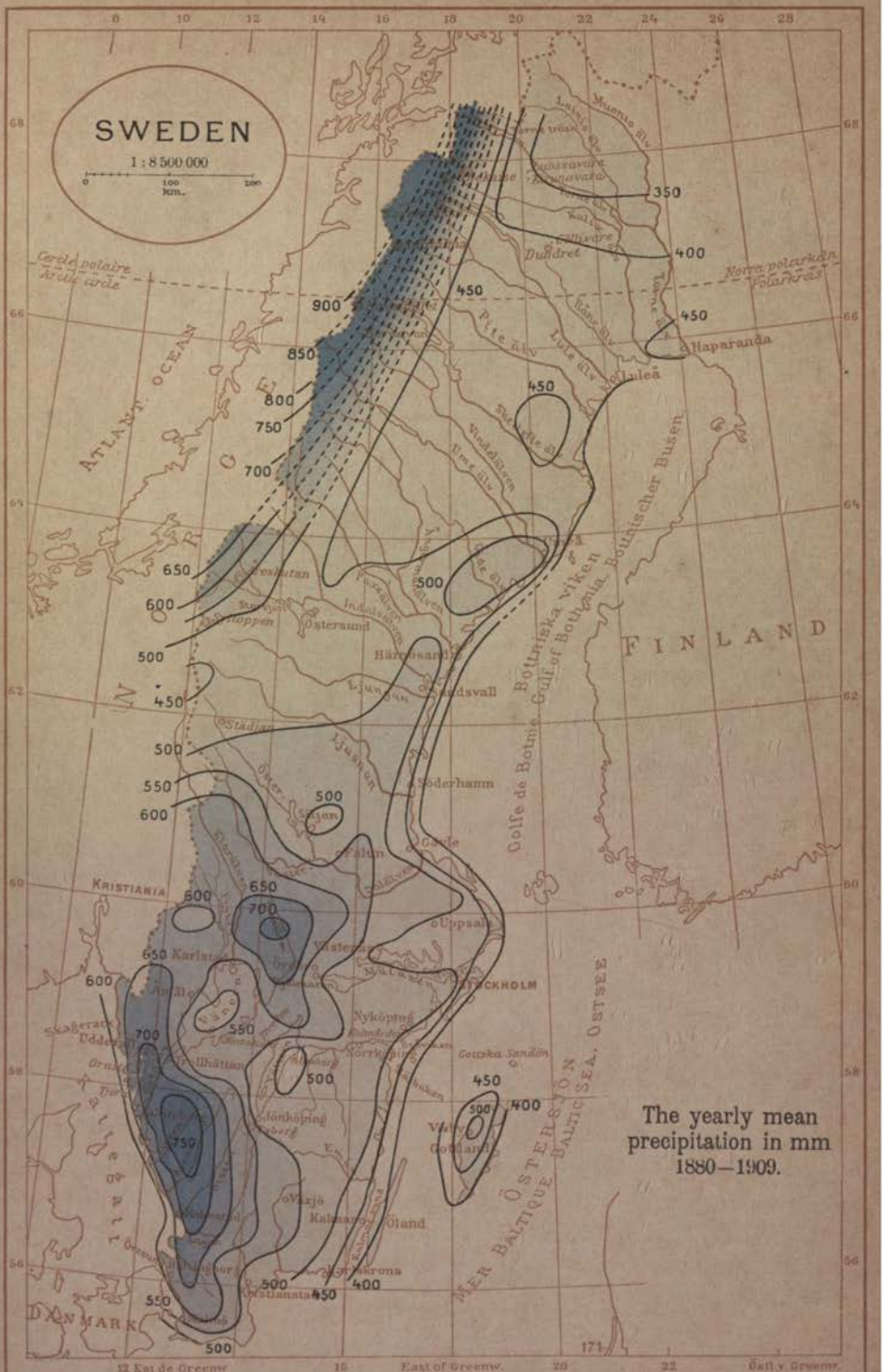
The ice-conditions in the *seas* washing the coasts of Sweden is a very important matter for navigation. Along the *west* and *south coasts*, ocean-navigation is endered somewhat difficult by ice — mostly drift ice — only in the most severe winters. Stationary fields of sea-ice, visible from the outermost lighthouses such as those of Vinga or Väderöbod, are rare; as a rule, they last only a few days, and it is very seldom that they are passable, as they were, for example, in February and March, 1888. In some severe winters the *Sound* has been covered with ice thick enough to drive across. The northern and central parts of the *Baltic*, from the Åland Sea to the southern part of Gottland, Öland, and the mainland of Kalmar Län, is covered with ice outside the belt of coast islands only during very cold winters, and then, as a rule, only for a few days or weeks, and for a distance of but some miles from the land. Drift ice, however, is commoner, often covering a considerable part of the surface of the Baltic, and forming enormous masses of pack-ice. Only during the mildest winters can navigation in these waters continue through the whole season without interruption. During very severe winters the *Åland Sea* (the strait between the Baltic and the Gulf of Bothnia) is covered with trafficable ice.

The Sea of Bothnia (the southern part of the Gulf of Bothnia) is frozen over every winter along the coast, but seldom, if ever, in its central parts. Navigation there is interrupted, on an average, from the end of November to the beginning of May, by field- or drift-ice, with some differences for different harbours, and with variations in respect to time amounting to 6 or 8 weeks, according to the severity of the winter. The *Qvarken* (the strait between the northern and the southern parts of the Gulf of Bothnia) is, as a rule, covered with trafficable ice every third or fourth winter. The *Gulf of Bothnia proper* is, as a rule, covered with ice every winter. The waters along the coast begin to freeze, on an average, about the middle of November; sometimes towards the end of October, or at the beginning of December. The ice ordinarily begins to break up during the latter half of May; it seldom does so at the beginning of the month, but sometimes it happens as late as the early days of June.

Fogs, of greater or lesser density, are not rare in Swedish waters. In the Gulf of Bothnia and the northern part of the Baltic, as far south as to the island of Gottland, we find the maximum of fogs, which amounts to 4 to 8 times a month during April or May; in the southern part of the Baltic and in the western seas the maximum occurs during the winter and amounts to 7 to 10 times per month.

Precipitation (rain, snow, hail, etc.) is, next to temperature, the most important climatic factor, for sufficient moisture and a sufficiently high temperature are the essential conditions of vegetation. The precipitation of moisture, too, provides springs, lakes, and rivers with their supplies of water, without which the waters in question would soon disappear in consequence of evaporation and escape. In Sweden, precipitation is considerably in excess of evaporation, and the excess is carried off by the rivers of the country.

The following table, which has been calculated by means of the ob-


SWEDEN
1:8 500 000
0 100 200 km.
350
400
450
900
850
800
750
700
650
600
500
550
Cercle polaire Arctic circle
Norra polarkretsen Polarkreis
ATLANT. OCEAN
NORWAY
FINLAND
Haparanda
Luleå
Östersund
Härnösand
Sundsvall
Söderhamn
Gävle
Uppsala
STOCKHOLM
KRISTIANIA
Karlstad
Örebro
Nyköping
Visby
Gotska Sandön
Gotland
Kalmar
Växjö
Karlskrona
DENMARK
Colfe de Botnie
Gulf of Bothnia
Bottniska viken
Bothnischer Busen
MER BALTIQUE
BALTIC SEA
OSTSEE
The yearly mean precipitation in mm 1880—1909.
12 Est de Greenw.
East of Greenw.
Öst v. Greenw.
Gen. Stab Lit. Anst. Stockholm

servations made at about 460 stations, according to the results published by H. E. Hamberg, gives the average annual amount of precipitation in each län for the years 1880—1910. If the average for this period be compared with the corresponding average for a series of 51 years (1860—1910), taking the measurements from about 30 stations, no noteworthy difference will be found.

Län	mm	Län	mm	Län	mm
Stockholm	485	Blekinge	529	Örebro	627
Uppsala	496	Kristianstad	600	Västmanland	562
Södermanland	513	Malmöhus	578	Kopparberg	553
Östergötland	519	Halland	691	Gävleborg	523
Jönköping	601	Göteborg och Bohus	663	Västernorrland	474
Kronoberg	585	Älvsborg [2]	703	Jämtland [3]	510
Kalmar [1]	491	Skaraborg	573	Västerbotten [3]	470
Gottland	452	Värmland	635	Norrbotten [3]	440

The accompanying map shows roughly the annual amount of precipitation at various places in Sweden, by means of lines drawn for every 50th mm through all the places having the same annual total of precipitation. It is a remarkable fact that, as is shown by this map, the sea and the great lakes diminish the precipitation over their surface and the adjacent country. The total amount of precipitation everywhere diminishes as we proceed from the mainland to the sea, on the east coast especially. The lakes, too, lessen the amount of precipitation, especially on their eastern sides, this being clearly shown in regard to Lakes Vänern, Vättern, Hjälmaren, Mälaren, and Siljan.

The average for the whole of Sweden is 515 mm, but for the two northernmost läns only about 450; for the rest of Norrland it is 504; for Svealand 565, and for Götaland 585 mm. For the the east coast it is materially less than for the west coast. Along the former a prolonged drought is not rare, particulary in spring and the early part of the summer; the rainiest districts are the western slopes of the highlands of Småland and Västergötland. The precipitation is probably still greater in the alpine districts of Western Lappland; at Pårtetjåkko (1850 m above the level of the sea) the annual precipitation, according to A. Hamberg's measurements, amounts to between 2 and 3 m. From the measurements already made it is shown incontestably, that, other conditions being equal, the amount of precipitation increases considerably with the increase of height above sea-level. But, as most of the stations are situated in the more cultivated and populous lowlands, the average given above is, consequently, undoubtedly too low.

Among the separate stations hitherto set up, the greatest average precipitation is shown at Riksgränsen, with an annual total of 1 055 mm; then comes Borås (57°43′ N. Lat.; 12°57′ E. Long.), where the yearly amount is 891 mm;

[1] Northern half of the Swedish mainland, 515: southern half of the same, 491; the island of Öland, 403 mm. — [2] Northern half, 659: Southern half, 728 mm. — [3] Uncertain, on account of an insufficient number of rainfall-gauge stations, in the mountain districts especially.

next come Storlien, with 874 mm, Björkholm (57°20′ N. Lat.; 12°22′ E. Long.), 821 mm, and Gothenburg, 779 mm, whereas at Karesuando the rainfall is only 307 mm and at Kalmar only 393 mm.

The yearly precipitation in Sweden shows considerable variations. At Uppsala, where the observations seem to be trustworthy from 1836 inclusive, the maximum was 812 mm, in 1866, and the minimum 312 mm, in 1875, the average for the 77 years, 1836—1912, amounting to 544. The highest maximum hitherto observed with certainty in Sweden is 1 256 mm, at Riksgränsen in 1905; then comes 1 209 mm at Hilleshult, in Halland, in 1910, while the lowest amount of precipitation known is 172 mm, at Karesuando, in 1891. These variations show a remarkable periodicity, the length of which varies between 4 and 8 years. The precipitation is, furthermore, subject to considerable variations of local and accidental nature. The monthly precipitation observed at a single station has varied between zero and 395 mm, droughts of several weeks' duration being sometimes followed by wet periods of about the same length. The precipation in twenty-four hours, also, varies between very wide limits: 30 to 50 mm falls nearly every year at some stations in summer and autumn in the form of rain, but also, in snowy winters, in the form of snow. The absolute maximum for 24 hours hitherto observed in Sweden is 187 mm of rain and 90 mm of snow. The rain sometimes comes as violent showers; sometimes steadily and heavily, sometimes as a mere drizzle.

Hail is not rare during the summer; it occurs during thunderstorms, according to Hildebrandsson, on an average in the proportion 1 : 11. Hailstorms in Sweden, however, are less numerous and destructive than they are in more southerly countries, the same thing being the case with *thunderstorms*, while both decrease, in general, as one goes towards the north and the east, and from the interior of the country towards the coast. Thunderstorms are most frequent in Älvsborg Län, and occur least frequently in that of Jämtland.

It is of great interest to know the proportion of the precipitation that remains on the ground as snow. In Skåne it forms only 9 % of the annual total, while in the north of Lappland it amounts to 36 %.

The *yearly period* of the precipitation is everywhere very strongly marked. In most of the provinces, the principal maximum occurs during the latter part of the summer, in addition to which there is, in some places, a secondary maximum in October, which, in exceptional cases, may be the principal maximum, the precipitation in the latter part of the summer becoming the secondary one instead. The minimum occurs everywhere, in February, March, or April. The climate of Sweden is distinguished by summer and autumn rainfall, with a relative scarcity af rain from the latter part of the winter to the early part of the summer, this being the case especially in the littoral and the islands of the east of Sweden. During the period of vegetation, this distribution of the precipation constitutes a great inconvenience for agriculture, which is often hampered by want of rain in the spring and by too much rain in the latter part of the summer and in the autumn. These conditions are illustrated by the two maps on pp. II, 38 and 40 the former of which shows half the total amount of precipitation during the months of May and June, and the second one-third of the total precipitation during July, August, and September — all averages for the years 1880—1909. The differences become still more

marked, if we compare the rainfall during the months of May and August; in Gottland, for example, the average precipitation during May amounts to only 25 mm, while in August it varies between 50 and 65 mm.

Winds. The cyclones arriving in Northern Europe from the seas to the west pass, as a rule, right across Sweden or to the north of the country, this explaining the predominance of south-westerly winds and the mild winter climate of Sweden, as well as the somewhat frequent occurrence of the storms that sweep over Swedish waters. According to the calculations of wind-velocities made at the lighthouses, there occur yearly, on an average, 20 storms on the west coast of Sweden, 11 on the south coast, 23 off Gottland, 8 in the Sea of Bothnia, but only 2 in the Gulf of Bothnia. These storms, although a hindrance and a danger to navigation, cannot, however, be compared with the hurricanes occurring in tropical waters. In 1905, storm-warnings began to be sent from the Central Meteorological Office to 28 stations on the west coast of Sweden. This was a step taken in collaboration with the Board of Agriculture for the assistance of the fisheries and, at the request of the fishermen, additional stations were opened during the course of the next few years, and the system was extended to the southwest coasts of the Kingdom. In 1913 the total number of storm-signalling stations amounted to 47, and in the same year the Riksdag made a grant for the purpose of extending the system to the east coast, too. The warnings in question are issued both for high winds and gales (windvelocity at least 14 m per second, or 7 Beaufort), the velocity now mentioned having occurred, on an average, 80—100 days yearly at one storm-signalling control-station on the west and south coasts, while gales (windvelocity not less than 20 m per second, or 10 Beaufort) have occurred there only some 10 days yearly per station.

As regards the interesting but difficult question of the **secular alterations** in our climate, it appears from botanical and geological investigations of the plant-fossils occurring in the peat-mosses of Sweden, that the climate some thousands of years ago was nearly 2° C. warmer than it is at the present day. But historical evidence gained during the last thousand years seems to point to a change of climate during that period, consisting of a gradual decline in the severity of the winters. This seems to be confirmed by the descriptions given in the mediæval chronicles of the ice-conditions in the Scandinavian seas, and also by the meteorological observations carried out by the famous Tycho Brahe in the island of Ven, during the period 1582—97, as compared with those made at later times down to the present day. It is remarkable that no severe winter has occurred in Southern or Central Sweden since the hard winter of 1892—93. In North Sweden, too, since the year last mentioned, the winters, as a rule, have been less severe than those during the years 1859—93. In consequence, the winters, on an average, have become somewhat shorter, and the mean temperature higher than for the period 1859—93. As regards the summer, the absence of thermometrical observations before the middle of the 18th century leaves us in ignorance, but since that time, observations made at Lund, Copenhagen, and Stockholm, point to the summers having become somewhat cooler. Measurements of the rain- and snowfall commenced at the same time as obser-

vations regarding temperature began to be made in Sweden, but, until the middle of the 19th century, the first-named observations are so unreliable or incomplete that scarcely any deductions can be drawn from them.

A climatic question of the highest importance to Sweden and there examined very carefully is that of the **influence of the forests** on its climate. This influence is, according to HAMBERG, very slight, or even immaterial, as regards *temperature* and *humidity*. As to rainfall, the forests are found to cause an increase. It is, however, rather slight in most cases, and only on the coasts, with a shoreward wind, does it amount much. But its real value is not yet known, on account of the great difficulty in exactly measuring the quantity of moisture and, especially, of snow which has fallen. According to Hamberg, the greater part of the increase found is due to errors of observation, which tend always to diminish the quantity measured, but more so on open plains and naked mountains than on those covered with woods.

Regarding these matters, compare also the article Hydrography (p. 20).

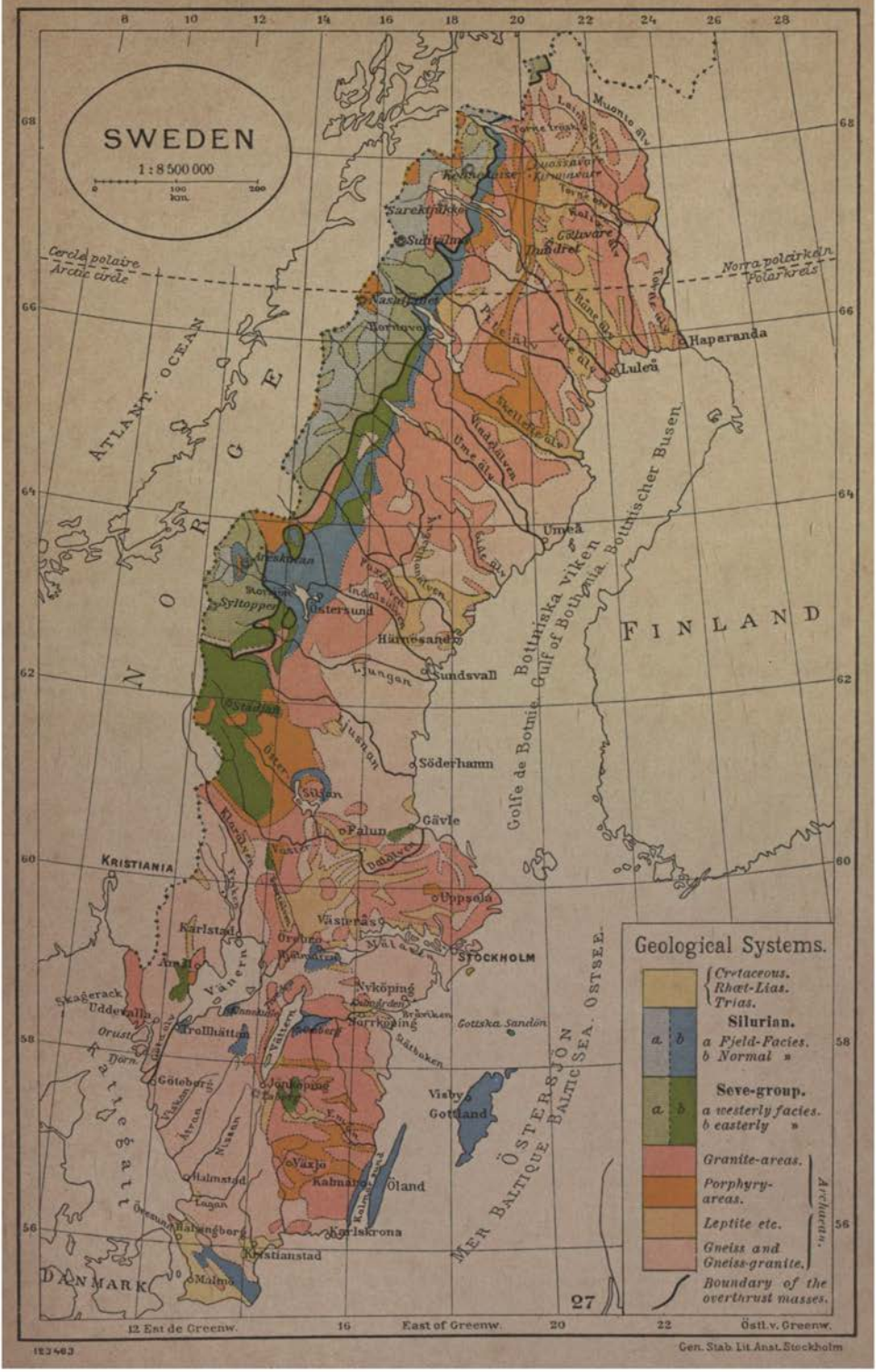
4. GEOLOGY.[1]

Geologically speaking, Sweden is a country of very ancient origin and consists to by far the largest extent of rocks whose formation dates back to the earliest epochs of the world's history. Futhermore, the main mass of the land of Sweden has existed as a continent continuously throughout the enormous periods of time that have elapsed since the Swedish Silurian deposits, now only in part preserved, were first formed. Exception must here be made respecting Skåne, the southernmost part of the country, which was partially covered by the sea even during the Trias, the Jurassic, and the Cretaceous Periods.

The above-mentioned characteristic of having formed a continental mass for so vast a period of time, Sweden shares with Norway, Finland and the adjacent parts of Russia, whereas most of the other European countries are covered by more recent formations, several thousands of meters in thickness, which prove those countries to have been covered by the sea during the greater part of the time that Sweden has been solid land.

The following geological systems are found represented in Sweden, each of them occupying approximately the area of the country here assigned to it: Archæan 78 %; Pre-Cambrian Groups (Algonkian) 9·10 %; Silurian, unmetamorphosed 6·40 %, metamorphic 5·60 %; Trias 0·04 %; Rhæt-Lias 0·16 %; Cretaceous 0·70 %; also traces of the Tertiary

[1] Of the maps illustrating this Article the one representing Sweden's Rocks has been reproduced, on a reduced scale, from the Geological General Map, scale 1 : 1 500 000, published by The Geological Survey of Sweden (Sveriges geologiska undersökning), Series Ba, No. 6, 2nd Edn. 1910. — The map showing the conditions prevailing during the latter part of the Glacial Period is based upon a map published by the same Institution, scale: 1 : 2 000 000; Series Ba, No. 5, 1898.


SWEDEN
1 : 8 500 000
0 100 200
km.
Cercle polaire
Arctic circle
Norra polcirkeln
Polarkreis
ATLANT. OCEAN
NORGE
FINLAND
Bottniska viken
Golfe de Botnie. Gulf of Bothnia. Bothnischer Busen.
ÖSTERSJÖN
MER BALTIQUE BALTIC SEA. OSTSEE.
Kattegatt
DANMARK
Haparanda
Luleå
Umeå
Sundsvall
Härnösand
Östersund
Söderhamn
Gävle
Falun
Uppsala
Västerås
STOCKHOLM
Nyköping
Norrköping
Gottska Sandön
Visby
Gottland
Öland
Karlskrona
Kristianstad
Malmö
Halmstad
Göteborg
Trollhättan
Uddevalla
Karlstad
Åmål
KRISTIANIA
Sarektjåkko
Sulitälma
Hornavan
Åreskutan
Syltoppen
Städjan
Siljan
Ljungan
Ljusnan
Dalälven
Vänern
Vättern
Mälaren
Geological Systems.
Cretaceous.
Rhæt-Lias.
Trias.
Silurian.
a Fjeld-Facies.
b Normal »
Seve-group.
a westerly facies.
b easterly »
Granite-areas.
Porphyry-areas.
Leptite etc.
Gneiss and Gneiss-granite.
Archaean.
Boundary of the overthrust masses.
27
12 Est de Greenw.
16
East of Greenw.
20
22
Östl. v. Greenw.
123463
Gen. Stab. Lit. Anst. Stockholm

System. The four last-named only occur within the Province of Skåne. In addition there are deposits of gravel, sand, clay, etc., dating from the most recent period, the Quaternary Period; these deposits form as a rule a more or less complete *surface-covering*.

The **Archæan** rocks are of many different species, e. g. gneisses and granites, porphyries, leptites, limestone, mica-schist, phyllite, quartzite, and greenstones.

The largest *gneiss*-district of Sweden extends over the western half of the southern and central parts of the country, from Skåne to Lake Vänern, and further northwards through western Värmland. Another less extensive area occupies the main part of Södermanland and has outliers stretching into the adjoining provinces. Gneisses prevail too in a large area along the Norrland coast. In all these areas the gneisses are very varied as regards structure, composition, etc. The so-called iron-gneiss, a red, even-grained variety impregnated with small grains of magnetite, is typical of the first-named area; besides it a grey, banded, and distinctly schistose gneiss is important. In the Södermanland district the grey "garnet-gneiss" is the most characteristic variety; it often contains the accessorial minerals: sillimanite, graphite and cordierite. Of other characteristic varieties met with in the gneiss areas there may be mentioned the green pyroxene-bearing "Varberg granite", which has been quarried to a large extent at Varberg in Halland.

Porphyry is found in several of the provinces of Sweden, though principally in the eastern half of Småland, in Dalarne, and in Lappland. In the Dalarne porphyry region, especially in the parish of Älvdalen, several hard, beautiful, rich-coloured varieties are found; they are worked up at the Älvdalen Porphyry Works. — The porphyries have the character of surface eruptives; they are supposed to have flowed over the previous rock-surface and solidified there as more or less extensive beds, like the lavas of a later date.

Partly allied to the porphyries, and sometimes difficult to distinguish from them, are the fine-grained crystalline schists termed *leptite* (formerly "hälleflint-gneiss" and "eurite"). Leptites prevail over fairly wide areas in northern Sweden, as well as in the provinces of Västmanland and Dalarne; small areas are met with also in other parts of central and eastern Sweden. In the coast district near Västervik in Småland, as well as in Dalsland Archæan *quartzite* has a considerable distribution.

In the leptite areas, and — though more rarely — in certain gneiss areas too, there occur layers and lenticular masses of *crystalline limestone* or marble. This is mainly the case in the eastern parts of central Sweden. At several places the rock is utilized for architectural and decorative purposes, and also for burning to produce lime.

The leptites, gneisses, etc., are as a rule found pressed and folded, and in many respects altered and transformed in character and appearance, so that it is a matter of difficulty to determine their original nature; in close proximity to them there are, however, in some localities sedimentary rocks, whose clastic nature is still preserved. Of these deposits the Grythytte formation, in Örebro Län, deserves to be mentioned first; it consists mainly of slates but also of a coarse conglomerate containing pebbles of the rocks of the gneiss and leptite division, but not of the adjacent granites. Further there may be mentioned the occurence of the

following: — in Tösse Parish, Dalsland, a *quartzite displaying ripple-marks* and discordant stratification; at Västanå in north-east Skåne a quartzite conglomerate; at Los in Hälsingland a slate formation; and in Västerbotten (principally in the district round Skellefteå) and Norrbotten, several areas of slate, conglomerate and quartzite sandstone.

Ores. Most Swedish ore-deposits occur connected with porphyries and leptites. The majority and by far the most important are the *iron ores*, distributed mainly in two regions, one in central Sweden and the other in north Lappland. In the first-named region the deposits occur grouped together in large numbers — most abundantly in the so-termed "Bergslagen", embracing west and north Västmanland and the adjacent parts of east Värmland and south Dalarne. The Grängesberg mining-field, situated in the last-named province, may be regarded as the most important of all. There are besides several iron mines in north Uppland (Dannemora, etc.), in Södermanland (Kantorp), and in Östergötland. The ores occur as layer — like bodies, usually intercalated in rocks of the leptite group. — The Lappland deposits are remarkable for their unusual size. In addition to Gällivare, Luossavara, Tuollavara and Svappavara, there is the enormous iron mountain Kirunavara. The ores, preponderatingly magnetite with intermixed apatite, occur as lenticular masses. At Kirunavara the ore body has a length of about 5 kilometers and a thickness of nearly 150 m.; it lies enclosed between beds of porphyry; at Gällivare leptites and gneisses constitute the border rocks. A distinctly different type of ore forms the greater part of the huge mountain Taberg, situated in Småland some six miles south of Jönköping; the ore, a low-grade mixture of titaniferous magnetite and olivine, is merely a facies of a greenstone intrusion (hyperite). — *Copper Ore*, chalcopyrite, is at present only mined to any extent in the Falun Mine. This deposit, the largest copper-ore deposit in Sweden and one of the largest deposits of chalcopyrite in the world, has been worked for nearly seven centuries. Other copper deposits are found at Garpenberg in south Dalarne, at Tunaberg in Södermanland, at Bersbo in Östergötland, at Åreskutan in Jämtland, etc. — Argentiferous *galena* is found at Nya Kopparberg, Guldsmedshyttan, and Kallmora Silver Mine in Västmanland, and also at a few other places in "Bergslagen"; it is however of comparatively small importance. At the Sala Mine, the rich silver ore, formerly so renowned and productive, is to a large extent exhausted. — An important *zinc-blende deposit* is worked in the Ammeberg Zinc Mines, near Askersund. Zinc ore is also obtained at Ryllshyttan, Saxberget and Stollberget in Dalarne, and at the Dannemora Mines. — *Manganese ore* (pyrolusite) is found at Bölet, north of Karlsborg, and at Spexeryd and Hohult, south of Jönköping.

Granites extend through a very considerable part of the Swedish Archæan. The largest granite districts are found in south-eastern Sweden (Småland) and in the central parts of Norrland. Geologically most of the granites appear as distinct intrusions in the surrounding rocks of the gneiss, leptite and porphyry groups, but their eruption clearly belongs to several different epochs. Petrographically a wide series of types are represented, differing in composition, structure and colour. The Swedish granites furnish an excellent material for paving and building stone as well as for various monumental purposes; they constitute the basis of a flourishing industry that has its centres principally in the southern coast regions (Bohuslän, Blekinge, Småland) and at Stockholm. — *Pegmatite* is of very general occurrence in the Archæan rocks in the shape of dikes, veins and lenticular masses; it constitutes the mother rock of several valuable deposits of felspar und quartz.

Greenstones appear in practically all areas of the Swedish Archæan. Among the greenstones a special group of rocks petrographically related to hypersthene-diabases is distinguished under the name of *hyperites*; they occur as a series of stocks, sheets and dikes, intercalated in the gneisses of the large south-western gneiss region all along its border towards the more variegated Archæan regions of south-eastern and central Sweden. Several of the Swedish greenstones furnish a fine material for tombstones and other monumental objects; in the trade the name "black granite" is collectively used for such rocks. Superior black granite is obtained from some of the deposits within the hyperite zone just mentioned, but chiefly from certain other diposits of more typical diabase rocks, usually distinguished as "bronzite-diabases", which form a system of dikes running along the eastern side of the hyperite belt.

Algonkian Groups. In several districts there occur non-fossiliferous sedimentary deposits, in some places of great thickness, resting discordantly on the Archæan rocks but at the same time older than the oldest Cambrian strata. Some of them (the Jotnian Group) have an obvious clastic structure and consist mainly of red sandstones together with conglomerates and slates; others (the Seve Group) to a large extent have a crystalline structure and consist of sparagmites, quartzites and crystalline schists, in some localities also of limestone.

The Jotnian sandstone occurs most extensively in north-west Dalarne (*Dala Sandstone*), constituting a formation, about 800 m thick, of flat, horizontal strata with two diabase beds intercalated, 50 and 80 m in thickness respectively. Other areas of the same formation are found in the north-eastern part of Värmland, in Ångermanland and Gästrikland. Presumably the *Almesåkra Series* in Småland is of about the same age. To the Jotnian may also be reckoned the *Dalsland Series* in Dalsland, a folded formation consisting of conglomerates, quartzites, slates and greenstone-schists, nearly 1 900 m in thickness.

The Seve Group forms the youngest division of the Algonkian strata of Sweden and is widely distributed within the Swedish fjeld-regions, forming there a zone that has a width in places of 100 km; it extends with only a few interruptions the whole length of the alpine territory along the Norwegian boundary-line, from Dalarne to the mountains surrounding the western end of Lake Torne Träsk in the most northerly part of Lappland.

The Cambrian and Silurian Deposits. Compared with the other formations that are represented in Sweden, the Cambrian and Silurian deposits stratigraphically form a connected whole, and hence it is now usual to group them together as *one* geological system, for which the name *Silurian* has been adopted. The Silurian System in a wider sense, therefore, includes both Cambrian (Cambrium) and Silurian, the latter subdivided into Lower Silurian (Ordovician) and Upper Silurian (Gotlandian). These deposits probably originally covered the greater part of Sweden, but now there only remain a few scattered remnants, which owing to some cause or other have been protected from destruction.

During the last epoch of the Precambrian times a considerable part of Sweden appears to have been land; the Cambrian, however, commenced with a depression or subsidence of such an extension, that only some few isolated parts of

the present-day Scandinavian Peninsula emerged above the surface of the sea. In the sea-water an abundant animal life developed (acalephs, trilobites, orthoceratites, graptolites, snails, crinoids and corals), and there were then deposited the oldest fossiliferous strata, viz. those of the Silurian System. The rocks of this system consist of sandstone with accompanying conglomerate and alum-shales etc. (Cambrium), lime-stones, clay-shales, marl-shales and sandstone (Ordovician and Gotlandian). All of these are considered normal in development, and are called Silurian of *easterly* or *normal facies*, in opposition to the schists etc. of crystalline development that are met with in the western parts of the fjeld-regions (and which are called *westerly facies*).

Of the Silurian areas with *normal facies* the Jämtland one is the largest. In Central and Southern Sweden there are the following Silurian areas: one in Dalarne, one in Närke, one in Östergötland and one in Västergötland embracing the region between Skövde and Falköping and including also Billingen, Mösseberg, Kinnekulle, and the twin hills Halleberg and Hunneberg; furthermore the Silurian area in Skåne should be mentioned, and the fact that the whole of Öland, the Småland coast facing that island and the whole of Gottland are also Silurian.

Mt. Kinnekulle, Lake Vänern, as seen from Lidköping.

The strata of the Silurian System at Kinnekulle are perhaps the most typical and perfectly developed; moreover they are the most easily accessible and lend themselves therefore aptly for study. The following are the principal strata, enumerated from below upwards: On the *Archæan*, consisting of *a.* gneiss, there lie, in order, *Cambrian: b.* Sandstone, grey or yellowish, about 34 m in thickness; *c.* Alum-shales (black clay-shales containing layers and concretions of bituminous Limestone), 22 m. — *Ordovician, Lower Silurian: d.* Ceratopyge limestone and Lower Graptolite shales, 4 m; *e.* Orthoceras limestone, grey and red, 53 m; *f.* Chasmops limestone (grey limestone and shales) 10 m; *g.* Trinucleus shales (red, green and black clay-shales) 28 m, with a covering layer, 5 m, of Brachiopod shales (impure limestone and calcareous shales, grey and green-grey). — *Gotlandian, Upper Silurian: h.* Upper Graptolite shales (dark clay-shales). The summit of the hill consists of diabase, forming a bed 30 m in thickness above the Upper Graptolite shales.

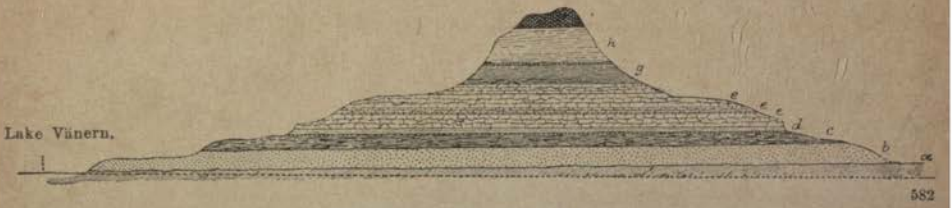
The other Västgöta Hills also have a covering of diabase, which owing to its hardness has protected the Silurian strata beneath from destruction. The Silurian areas in Dalarne, Närke, Östergötland, and Skåne, on the other hand, have been preserved down to the present time by dislocations at or after the close of the Silurian Period, when they were thrown down to a level beneath that of their surroundings, whereby they were rendered less exposed to those agents that wear away and erode exposed rocks.

In the Jämtland Silurian area all the three main divisions of the System are represented. The Silurian along the base of the mountain range in Lappland consists of quartzites, sandstones and of slates, all of them practically without fossils.

The Silurian of Dalarne lacks the Cambrian strata; on the Archæan rocks there rests directly a calcareous conglomerate (Obolus conglomerate); on the top of that there comes first Orthoceras limestone and then the other Silurian strata, of which there may be mentioned the Leptæna limestone and the Orsa Sandstone, strata that do not occur in the other Silurian areas.

The Silurian of Närke and Östergötland presents mainly the same sequence of strata as that of Västergötland, but recent disintegration is more noticeable.

In the Skåne Silurian the great thickness of the Upper Silurian shales is very remarkable, according to calculation as much as 1 000 m. These shales, more especially light-grey, marly clay-shales (Colonus shales or Cardiola shales), are the ones that most frequently lie exposed in the Skåne Silurian area. The youngest of the Upper Silurian deposits here are a series of sandstone, limestone and marl shales similar to those of Gottland.



Section of Mt. Kinnekulle.
From West to East. Scale of height five time as great as that of length.

In the island of Öland the exposed rocks are almost exclusively orthoceras limestone; owing, however, to the strata having a slight slope to the east, the underlying thick layers of alum and other Cambrian shales only crop out along a portion of the west coast of the island. The underlying Cambrian sandstone is in its turn visible on the opposite Småland shore, across Kalmar Sound.

Gottland consists entirely of Upper Silurian strata, Gotlandian, viz. marl-shales, sandstone (Bursvik sandstone) and oolite (lower division), on the one hand, and limestones that have been formed by the accumulation of fossil remains, on the other (upper division); to a large extent they are remnants of ancient coral-reefs.

Silurian with *westerly facies* is found furthest south in a district in the westernmost part of Jämtland, and occurs further north, running in an almost unbroken zone of some 20 to 50 kilometers in breadth from Frostviken, south, to Lake Torne Träsk, north, skirting the Norwegian frontier.

Contrary to the state of things in the normally developed Silurian areas, where the original horizontal position of the strata has been preserved almost intact, the western Silurian strata, as well as those of the Seve Group, have been uplifted, bent, and crumpled in the folding processes that produced the Scandinavian mountain range. The sections here often exhibit sequences that are very difficult to interpret. *Törnebohm* explained the abnormal sequences in the fjeld-regions by an "overthrust" theory, to the effect that while the folding of the mountain range was proceeding, Archæan and Algonkian on a large scale were overthrusted over the Silurian strata. The limit of this abnormal overlapping is marked on the map, p. 47, by a thick black line.

After gradually rising above the surface of the sea that covered it during the Silurian Period, Sweden retained its character of continent throughout

the whole Paleozoic era and the first part of the Mesozoic. It is probable that the formation of the Scandinavian mountain range in its principal part was commenced and gradually completed in conjunction with the very rise of the land above spoken of, which itself may have taken an immense time. Meantime there were all the while many various agents at work reshaping and gradually readjusting the surface conditions of the ground, such as weathering, rain and flowing water, etc. River valleys were hollowed out here and widened there, fjeld plateaus and mountain crests were degraded and finally removed, and in a very large part of the region formerly covered by the comparatively speaking loose rocks of the Silurian System, that did not offer much resistance, those strata were destroyed or, as one might say, swept away.

From a practical point of view the Cambrian-Silurian rocks with normal facies are of very great importance. In the southern part of the island of Gottland there is quarried an Upper Silurian sandstone, light-grey in colour and easy to work, that has been made a great deal of use of in architecture. The well-known Gottland grindstones for instance are made of that material.

Lower Silurian limestone (orthoceras limestone), both ruddy brown and grey, are utilized as building and facing stones, as material for mouldings, for stairs and floors, and for architectural ornaments; extensive quarries of it exist in Närke, in Västergötland, in Östergötland, on the west side of the island of Öland, in Skåne, in Dalarne, and in Jämtland. Of the varieties of Upper Silurian limestone occurring in Gottland there are several that are very much used for architectural purposes; members of the medieval church porches in Gottland being built of it; in many cases they are very well preserved. In several localities in Västergötland and Närke bituminous limestone is quarried and used for the production of lime by burning; in this process bituminous alum-shale, which is quarried at the same time as the limestone, is made use of as fuel; formerly the burnt alum-shale was utilized as the raw material for the production of alum.

Only in Skåne are there deposits of systems of strata younger than the Silurian, viz. of the Trias, the Jurassic and the Cretaceous Systems, as well as, to a small extent, of the Tertiary.

The Trias System. There are to be found developed in Skåne those strata of this system that are classified as constituting its younger group, Keuper; they consist of brownish red and greenish or else mottled clays, marls and sandstones and also conglomerates. These form the rock-floor in three small areas in the north-west of the province.

The Keuper strata also extend beneath the Rhæt-Lias, the formation next younger in age, lying themselves over and in immediate contact with the Silurian, as has been shown by numbers of deep borings. The thickness of the Keuper-formation in Skåne may be put down at 200 meters. There are no coal-seams in the Keuper of Skåne.

In conjunction with the Skåne Keuper there should be mentioned a sequence of strata, up to 300 meters thick, of sandstones, schists and slates etc. These deposits are named the *Visingsö Series*, being found on the Island of Visingsö in Lake Vättern, and also cropping out at several places on the shores of that lake. No fossils have been discovered in this sequence of strata, and its age must still be left an open question. The strata were thrown down in the basin of Lake Vättern by faults running north and south and have thus been protected from denudation.

Rhæt-Lias. The deposits belonging respectively to the uppermost strata of the Keuper (the Rhætic) and the lower section of the Jurassic System (Lias), which, owing to their intimate connexion, have received the joint designation of Rhæt-Lias, include not only the coal-bearing formation of Skåne but also the more or less coarse deposit of so-called Hör sandstone.

The Skåne Coal-bearing Formation is distributed over three districts of a total area of 800 sq.km, the northern and largest one embracing the country lying between Höganäs, Billesholm and Landskrona; the central district lying round Eslöv Railway Junction and Stabbarp; and the southern district extending as a narrow belt along the boundary of the Silurian System from Lake Vombsjön to the neighbourhood of Ystad. The formation contains alternating layers of mostly finegrained sandstones, clays varying in colour between grey and black, some among them being refractory, fire-clay, grey, greyish-yellow and black shales, and *coal*, as well as sporadically occurring strata and nodules of clay-ironstone. In the country between Höganäs and Hälsingborg a thickness of the strata amounting to 200 meters has been noted, while at Skromberga, SE of Hälsingborg, i. e. on the south-east outcrops of the northern coal-bearing district, the thickness is merely 20 or 30 meters.

The coal-seams are as a rule of very moderate thickness; only the two lowermost ones are of such a constitution and thickness that they can be profitably mined. From one or other of these two seams the coal is obtained at the mines now in working at Höganäs, Billesholm, Bjuv, Skromberga, Hyllinge, Ormastorp and Gunnarstorp, which are all situated in the northern of the three coal-bearing districts above enumerated. Statistics for 1910 show that altogether a total of 302 786 tons of coal, 140 607 tons of fire-clay, and 67 252 tons of clinker-clay were brought to the surface during that year. The thickness of the coal-seams runs in general from 0·3 to 1·0 meter; as a rule the seams are accompanied by fireclays or shales, which are mined along with the coal; they yield raw material for what has become a very considerable manufacture of fire-proof bricks, pipes, tiles, etc.

In the lower strata of the coal-bearing formation from the Rhætic epoch, which were deposited on a marshy shore, there are found in a state of good preservation remains of land-plants belonging to the tropical and sub-tropical vegetation of vascular cryptogams, cycadophytes, gingko-plants and coniferous trees (foliferous trees were wanting), which grew and throve at that time and yielded material for the coal-seams; on the other hand, in the upper series of strata formed in the Liassic epoch, which in the main is of marine origin and does not contain any coal-seams worth mentioning, there also occur certain marine fossils, principally molluscs.

Hör sandstone is quarried in several places, yielding mainly millstones.

The Cretaceous System. Deposits belonging to the two youngest stages of this system, viz. Danian and Senonian, extend through a considerable part of south-western Skåne and through a large area of the north-eastern part of the province and the adjoining part of Blekinge.

The deposits found in south-west Skåne consist firstly of chalk proper (white chalk), secondly of limestones (Coccolite or Saltholm limestone, Coral or Faxe limestone and Bryozoan limestone), occurring in the country lying between Landskrona, Malmö and Trälleborg, and stretching towards Romeleåsen, thirdly of a marly sandstone (Köpinge sandstone) found in the neighbourhood of Ystad, and fourthly of a species of marl found near Eriksdal and Kullemölla on the

eastern side of Romeleåsen and extending along the boundary of the Rhæt-Lias region and the Silurian. In most of these strata there occur beds and bosses or nodules of flint. The strata of the north-eastern chalk region consist partly of a limestone composed of broken and rolled organic fragments etc. (gravel limestone or Ignaberga limestone), partly of a finer-grained, almost earthy limestone (Hanaskog limestone) and partly of quartz-sandstone.

In north-eastern Skåne the Cretaceous has the Archæan as basis, whereas in other parts of the province it appears to rest upon younger, purely sedimentary strata, in some places indeed on the Rhæt-Lias Formation. The total thickness of the Cretaceous is not known with certainty; a deep boring north of Ystad went down in the Senonian for 500 meters below the surface of the ground without the basis of the Cretaceous being reached.

Of the fossils found in the older (Senonian) division of the Skåne Cretaceous we may notice the very abundant *Belemnites* and a species of ammonite, *Ammonites Stobœi* L., which attains a diameter of 40 cm. In the Saltholm limestone at Annetorp, of the Danian, large numbers of the teeth of some shark-species have been found. — The Cretaceous rocks have been made the basis of several industries: common white or blackboard chalk is quarried and worked up into a finished product at Tullstorp, Kvarnby and Sallerup, east of Malmö; Saltholm limestone is obtained from large quarries at Limhamn, south-west of Malmö, and together with clay it forms the raw material for a large-scale manufacture of Portland cement; the chalky limestones in north-eastern Skåne are either burnt for lime or crushed to manuring-lime, for use in agriculture as a fertilizer. — It has been observed that the Cretaceous deposits in north-east Skåne rest in many places upon a bed of China clay, beneath which the Archæan bedrock is more or less weathered and disintegrated. These deposits of China clay yield raw material to some industries in washed China clay and refractory wares.

From the **Tertiary Period,** which succeeded the Cretaceous, no Sedimentary strata have been found except at Klagshamn, SW of Malmö where, overlying the Coccolite limestone, there has been observed a dark greyish green glauconite sand or sandy greensand marl, belonging to the oldest part of the Tertiary, viz. the *Palæocene.*

During the Tertiary Period the rocks of Skåne suffered very remarkable dislocations, for it was then that there occurred those great subsidences in the crust of the earth, along fault-lines running north-west to south-east, that caused certain Cretaceous areas to be sunk 1 000 meters or more below the level of the adjacent districts; in conjunction with that vast revolution there happened those volcanic eruptions whose lava-beds and ashes we see remains of in the scattered deposits of *basalt* and *basalt-tuff* north of Ringsjön in central Skåne.

The present-day tectonic structure of Skåne, the distribution of the various geological systems, and their conditions of contact, are all due in a large degree to *faults.* The direction of the more considerable, perhaps the majority, of these dislocation-lines is NW—SE, and these have exercised the greatest influence on the architecture of the bedrock. It is owing to their existence that the geological systems in Skåne have their peculiar belt-like or zonal distribution; by these faults the bedrock has been divided up as it were into lengthy zones, some of which have been lowered more or less beneath the level of others lying adjacent. There are however other fault-lines intersecting these, and one might be tempted to compare the bedrock in Skåne to a piece of mosaic-work, the different "component parts" of which had been in varying degrees dislocated, chiefly in a vertical direction, some having suffered subsidence, others not.

123483 Gen. Stab. Lit Anst. Stockholm

The areas in this province now occupied by deposits of the Cretaceous and Rhaet-Lias Systems, partly too by those of the Keuper and the Silurian System, are such as have suffered subsidence by dislocations. Between the depressed or subsided areas there remain certain ridges or so-called "Horsts", which are sections of the Archæan rockground that, bounded by faults, have not as yet been destroyed or smoothed away.

Phot. ALFR. OLSSON.

Glacier on Mt. Sulitelma, Norrbotten.

The surface of the bedrock of Sweden, whether it consists of rocks of the Archæan System or of those of the sedimentary systems named above, is covered with gravel, sand, clays and other earthy deposits to a very considerable degree; they were deposited subsequent to the end of the Tertiary Period, i. e. during the period extending down to the present time, to which the name **Quaternary** has been given.

Whereas a relatively speaking high and equable temperature would appear to have prevailed throughout the world during the earlier part of the Tertiary Period, Central Europe for instance enjoying a tropical climate, a fall of temperature established a changed state of things in its later part. — When the fall of temperature finally reached its maximum in the Northern Hemisphere, during that part of the Quaternary Period that is termed **The Ice Age** or **The Glacial Epoch,** the whole of the Scandinavian Peninsula was covered with a sheet of *inland ice* or *land ice* of very great thickness. At the time of its greatest extension that ice-sheet also covered Denmark, North Germany, Finland, a large part of Russia, and a section of Holland even reaching Great Britain, both the North Sea and the Baltic being solid masses of ice.

In its advance from the higher, central regions the inland ice exerted an erosive influence on the rocks upon which it rested; the greater part of the

products of the disintegration of earlier geological periods were swept away and removed; the bedrock itself was scratched, smoothed and furnished with those linear *glacial striæ* that we may at the present day often observe on the rocks exposed to view; the direction of the striæ indicates the course followed by the ice.

The inland ice gave rise to new deposits, the *Glacial Deposits*, which were formed in part during the forward movement of the ice, in part while it was melting. — In conjunction with an improvement in the climate the inland ice commenced to melt away and retreat, being finally restricted to the higher, central parts of the Scandinavian Peninsula. When that was accomplished, there was *till* or *moraine* left behind, consisting of stones and gravel and lying as an extensive coverlet upon the uneven and undulating bedrock, the matter having been collected and carried along by the ice. The moraine is the most widely extended of the Quaternary deposits of Sweden. In several places terminal moraines are to be noticed as well as other ice-margin deposits, denoting oscillations or pauses in the retreat of the ice-sheet.

Boulders, not infrequently very large in size, *erratic blocks*, are found lying on the ground in numerous localities; they have been carried to the spots where they now lie by the land ice or by floating icebergs. — Where the material of which the moraines consist derives from rocks of less hard character, such as the clay-shales and limestones of the Post-Archæan Systems, it is clayey and contains carbonate of lime (moraine clay, moraine marl), thereby forming a fertile soil. The fertile Skåne plains have a soil that in the main consists of such calciferous moraine-clay.

In close connection with the melting of the ice in Sweden at the end of the Glacial Epoch there were deposited those remarkable ridges of sand and rolled gravel that are named *åsar*. Åsar are to be found in almost all parts of the country.

Sand and clay were carried off by the glacial streams and deposited in the sea, in lakes, and in so-called *ice-lakes*, i. e. lakes formed by the damming up of the rivers by the retreating ice-sheet.

At the date of the final melting of the inland ice Sweden, Norway, and Finland (Fenno-Skandia) had a lower level than at the present day, presumably owing to a depression occasioned by the weight of the ice mass, and consequently wide areas of what is now land were covered by the sea as the ice retreated. At that time the North Sea was connected, via Lake Vänern and the province of Närke, by a broad channel with the Baltic. (Vide p. 56.) In those submerged regions there was deposited the *Late Glacial Clay*, which now lies spread, in many places beautifully stratified, over the most extensive plains of Sweden and in other districts too. Remains of shells of the arctic mussel *Yoldia arctica* have been found in it, and also skeletons of Greenland seal, great seal, of certain whale-species and of other arctic marine animals the exact counterparts of which are now living off the coasts of Spitzbergen and Greenland. — The laminæ of the late glacial clay are annual laminæ caused by the yearly alternation of the seasons; by counting up their number in the various regions, from South to North, throughout the parts of the country where deposits of the clay are found, it is possible to fix the length of time that was absorbed in their formation.

When the submerged land again began to rise above the Sea, the Närke Channel became shallower and shallower. Thus the Baltic was early shut off from connection with the North Sea and transformed into a fresh-water lake, named, after the small fresh-water mollusc *Ancylus fluviatilis* living in it, the *Ancylus Lake*. By that date the climate had so much improved that most of the present flora and fauna of Fenno-Skandia made their appearance. Upon the

above-mentioned elevation of the land followed in the southern part of the Baltic and North Sea basins and adjacent land territory a slow-proceeding depression, whereby, for instance, the lands bordering the Belts and the Sound were sunk to a somewhat lower level than their present one. Thus the water of the North Sea made its way into the Ancylus Lake, transforming it into an inland sea with water of low salinity. The channel of communication thus opened up was broader than the present one, and the consequence was that the salinity of Baltic Sea water at that time became ultimately higher than it is nowadays. After a mollusc, *Litorina litorea*, found in the deposits of the above-named inland sea it has been called the *Litorina Sea*.

The marine deposits yield in the main the best and the most easily tilled soils in Sweden and have, therefore, been principally allotted to agriculture. Thus the parts of the country that are most highly cultivated and show the densest population are broadly speaking identical with those areas that formerly, in glacial and post-glacial times, were covered by the sea.

* * *

Sweden is a land **abounding in lakes.** In addition to the larger inland lakes, there are up and down the country an innumerable multitude of smaller lakes of varying size. Still more numerous are the *mosses* or *bogs*, consisting of peat, etc. The majority of them were originally lakes.

That Sweden abounds in so high a degree with lakes and peat-mosses is to be accounted for partly by the broken and uneven surface that a large proportion of the Archæan bed-rock acquired, owing to weathering and other causes, while it was uncovered by the sea, and partly by the results of the moraine deposits of the Glacial Epoch in the form of embankments and mounds.

Another salient feature of the configuration of Sweden is the **"Skärgård"**, or cluster of islands fringing the coast; this feature is present off several parts of the coast-line of the country. The skerries, islands, and islets are very numerous and the fringe of them off the coast is now wider, now narrower.

The elevation of the land is still proceeding, though at a very slow rate: only about half a meter in a century.

* * *

In order to give an approximate idea of the vast length of the geological periods it may here be mentioned in conclusion that the time that has elapsed since the inland ice began to melt in north-east Skåne is about 12 000 years, according to the estimate of *G. De Geer*.

* * *

In the above sketch of the Geology of Sweden some particulars have been given of the uses to which the rocks are put, in order to make it as clear as may be what the respective natures of the various rocks are. For further information on this head the reader is referred to the article on Stone Industry. (Vide Part. II.)

5. FLORA.

Sweden, in consequence of its great extent from north to south, falls into several different zones of vegetation distinguished by their climates. The southernmost and south-western part belongs to the central European region of deciduous forests; the main part belongs to the coniferous region of the Northern Hemisphere; while the highest and northernmost parts are marked off by a vegetation that has characteristics in common with the Arctic tundras. The whole country below the Alpine region has a markedly forest climate. The rainy autumns and the snowy winters provide the soil with a considerable supply of water, so that even during the driest and warmest part of the period of vegetation the water requirements can be satisfied. During the winters mild and moist winds mostly prevail, so that the trees are not exposed to any very powerful transpiration while the activity of the roots is crippled by the cold. Even in the most northerly parts of the forest-region the period of vegetation has a warmish month with a mean temperature of + 11° C. Within this region the forest is the natural plant-formation conditioned by the climate. Other plant-communities that occur are conditioned either by the peculiar nature of the soil (edaphic plant-formations such as mosses) or by man's interference with nature (cultivated formations, such as ploughlands and meadows). Owing to differences in summer temperature, and other but less significant differences in climate, the forests in the southerly parts of the country have a quite different composition from those in the northerly parts. We may distinguish a Beechwood region which prevails in the southernmost and south-westerly part of the country, a southerly and a northerly Coniferous region, and a Birchwood region forming a transition to the Alps. The climate of the Alps is distinguished by a character markedly unfavourable to trees. In the winter there prevail cold and violent winds, which have a highly dessiccating effect on the trees; and this is so much the more harmful to them because the water they lose cannot be replaced from the frozen ground. The trees that extend highest towards the Alps, therefore, appear in extremely deformed shapes; and the Alpine vegetation proper, the Alpine heath, is destitute of trees. The following five regions correspond to such considerable changes in the character of the vegetation that the entire form of the landscape is affected thereby: — viz., (1) *the Alpine Region,* (2) *the Region of the Birch Forest,* (3) *the Northern Region of Coniferous Forest,* (4) *the Southern Region of Coniferous Forest,* and (5) *the Region of Beech Forest.*

The **Alpine Region** comprises the northernmost and highest part of the country, and extends south as far as Northern Dalarne. Along the Norwegian borders it forms a belt of varying breadth, severed or interrupted

SWEDEN
1 : 8 500 000
Forest Map.
Alpine Region.
Region of Birch Forest.
Northern Region of Coniferous Forest.
Southern Region of Coniferous Forest.
Region of Beech Forest.
Barrträdens nordvästgräns
Cercle polaire
Arctic circle
Norra polcirkeln
Polarkreis
ATLANT. OCEAN
NORGE
FINLAND
Bottniska viken
Gulf of Bothnia
Bottnischer Busen
Golfe de Botnie
Haparanda
Luleå
Umeå
Sundsvall
Härnösand
Östersund
Sveltoppen
Areskutan
Ljungan
Ljusnan
Söderhamn
Ekens nordgräns
Gävle
Falun
Uppsala
Västerås
Stockholm
Kristiania
Karlstad
Örebro
Nyköping
Norrköping
Gottska Sandön
Visby
Gotland
Jönköping
Växjö
Kalmar
Oland
Granens sydvästgräns
Karlskrona
Bokens nordgräns
Kristianstad
Malmö
Halsingborg
Trollhättan
Orust
Skagerack
Uddevalla
Kattegatt
DANMARK
ÖSTERSJÖN
MER BALTIQUE
BALTIC SEA
OSTSEE
12 Est de Greenw.
East of Greenw.
Östl. v. Greenw.
Gen. Stab. Lit. Anst. Stockholm

Photo. GUNNAR ANDERSSON.

Alpine Heath.

by more or less considerable glens. Its total area is calculated to amount to about 6 million hectares. Its lower limit is 500 meters above sea-level in northern Lappland, about 950 meters in northern Dalarne.

The Alpine heath is the most distinctive plant-formation of the Swedish Alps. It is a dry, scanty, and monotonous vegetation, which covers vast areas of the Alpine plateaus which are so characteristic of Sweden. The Alpine heath is distinguished in the first place by dwarf-shrubs. They often have fast leaves that last through the winter, and they form, pressed close to the ground, a kind of mat or tuft which in spring and early summer is covered over with beautiful and brilliant flowers. Many belong to the heather family, such as *Phyllodoce coerulea, Azalea procumbens, Arctostaphylos alpina, Vaccinium vitis idaea, Myrtillus uliginosa;* others have the habit of the heather family, though they belong to other families such as *Diapensia lapponica* and *Empetrum nigrum*. The dwarf birch (*Betula nana*) occurs most frequently in specimens pressed close to the ground, as also, in the lower tracts, the juniper (*Juniperus communis f. nana*). Herbs and grasses play a subordinate part. Between the shrubs the ground lies naked or covered with mosses and lichens. Where the soil is richer and the water conditions are favourable, the monotonous Alpine heath is interspersed with a plant-formation that is much richer in species and more luxuriant — the Dryas formation. Like the Alpine heath, it is characterized by beautifully blossoming dwarf-shrubs, especially the Alpine anemone, *Dryas octopetala,* but also by numerous grasses and herbs. Yellow and light-red ranunculi, yellow, white and violet saxifrages, blue and violet leguminosae, dark blue gentians, make the Dryas formation a richly coloured plant-formation,

Photo. HENRIK HESSELMAN.

Vegetation from the Region of Birch Forest (Lappland).

which in the otherwise bald scenery seizes and delights the eye. The upper part of the Alpine region is poor in species and scanty; and some few flowering plants and a number of lichens go up to the eternal snow. The lower part of the Alpine region is characterized by grayish white osier-beds, which round streams and other moist spots attain a highly luxuriant development. The Alpine heaths and the gray osier-beds bring the Scandinavian Alpine vegetation near to the Arctic tundra.

The **Region of the Birch Forest** forms a belt of varying width and range below the bare Alps. This region is most fully developed in the extreme north of Sweden, where it attains a vertical range of 150—200 meters and a horizontal extent of some 30 kilometers; while in Dalarne it attains a range of only 30 to 50 meters, and in the isolated alps of the eastern parts of the region it is altogether lacking or but faintly developed. This region is characterized by the Alpine birch *(Betula odorata f. subalpina)*, which forms low, thin forests of trees with highly irregular ramification. Its lower limit in northern Sweden lies at 400 m. above sea-level; but it rises towards the south and in Dalarne goes up to 900 m. above sea-level.

With the Alpine birch occur the aspen (*Populus tremula*) and the rowan (*Sorbus aucuparia*). The appearance and the composition of the birch-forests vary. Where the soil is fertile and moist, and especially where it is calcareous, the trees attain in sheltered situations a respectable height, while the ground vegetation is rich and rank, formed of broad-leaved high-growing herbs, often

with magnificent brilliant blossoms, while bird-cherries (*Prunus padus*) and red currants (*Ribes rubrum*), together with green-leaved osiers form a dense thicket vegetation. As a rule, however, the undergrowth is meagre and monotonous, especially on level and dry ground. Lichens or mosses form a thick carpet on the ground, and over this rise thick dwarf birches or shrubs, such as whortleberries (*Vaccinium vitis idaea*), blueberries (*Myrtillus nigra*) and crowberries (*Empetrum nigrum*), together with very scanty grasses and herbs.

Photo. GUNNAR ANDERSSON.

Pine Forest in the Northern Region of Coniferous Forest.

Below the region of the birch-forest we come to the **Region of Coniferous Trees,** which covers the greater part of the land-surface of Sweden, and where two trees, the Scots pine *(Pinus silvestris)* and the common spruce *(Picea excelsa)*, dominate the vegetation and have a decisive influence on the general character of the landscape. As has been

mentioned before, this wide region may properly be divided into a northerly and a southerly part, which are delimited from one another in a natural way by the northern limit of the oak *(Quercus pedunculata)*.

The **Northern Region of Coniferous Forest** forms the great woodland of Sweden. Endless expanses are covered with forest, whose monotonous covering is broken only by desolat moors and by rivers and lakes. It is only in the coast districts, in the regions below the old marine limit, in the Silurian of Jämtland and Dalarne, that the forest has to any considerable extent been compelled to give way to agriculture. Seldom, however, does one come across real primaeval forests: almost everywhere the axe has interfered. Here, however, the axe has been of less importance in the development of vegetation than in the southern region of coniferous forest, as the woodcutting has mostly been carried out by way of selection the trees and, to a less extent, by clear cutting (a certain number of seed-trees being left). Of greater importance for the history of the forests in this part of the country are the forest fires, which — especially in former days — were very common and laid waste extensive areas.

Together with the pine and the spruce, the common birch *(Betula odorata)* plays a pretty considerable part in the composition of the forests, while the curled birch (*Betula verrucosa*) chiefly occurs in the southern parts of the region and in the coastal districts. With them are found aspen, sallow (*Salix caprea*), birdcherry (*Prunus padus*), rowan (*Sorbus aucuparia*) and gray alder (*Alnus incana*), and in the southern parts of the region the common alder (*Alnus glutinosa*). In scattered spots, suitable for vegetation requiring more warmth, there are found the elm (*Ulmus montana*), the linden (*Tilia ulmifolia*), the maple (*Acer platanoides*), the ash (*Fraxinus excelsior*), the hazel (*Corylus Avellana*) — principally as remains of a greater distribution in former days.

The vegatation of the coniferous forests is poor in species and monotonous; the ground-coverings of lichens and mosses and the berry-shrubs determine the total impression; grasses and herbs are of subordinate importance. Where the ground is kept moist by running water that is always fresh, or where it is rich in chalk, however, a fairly luxuriant vegetation of grasses and herbs may form a pleasant break in the monotonous flora of the coniferous forests. The various ways in which the constituent parts of the forest are put together, however, and the different ways in which the ground is covered, have the consequence that, despite the scanty number of species that characterize the flora of the coniferous forests of Norrland, different types of forest of quite different character can be distinguished. In the pine-heaths the trees grow far apart, a flood of light pours down on to the ground, which thus shines gray-white with lichens, forming a covering broken by low dwarf-shrubs such as ling, whortleberries and crowberry. Pine-heaths dominate the dry sandy plateaus round the rivers and the drier and more level moraine lands. They have a great extent in the interior of upper Norrland, in Härjedalen and Northern Dalarne. A richer impression is given by the mossy pine-forests with their trees often fairly close together. The lichen covering is there replaced by mosses, among which blueberries (*Myrtillus nigra*) figure more conspicuously than on the pine-heaths. Into this type of wood the spruce easily immigrates, often forming a very slow growing undergrowth. When the pine does not reproduce itself under the shadow of the spruces the wood developes into a spruce-forest pure and simple. This mode of development, however, is often interrupted — this was especially the case in former

days — by forest fires. The fire kills the spruce, but often leaves the pine uninjured; and afterwards this last, together with the common birch, reproduces itself in the ground fertilized by the ashes. The development to pure spruce-forest, however, has in many places been hastened by the fact that pine has been cut down while the spruce has been let alone. This method of woodcutting was especially common in former days. In the coast districts and in the southern parts of the region there occur coniferous forests with pine and spruce of about the same age. In many districts — e. g., in the Silurian of Jämtland, in southern Lappland, and in the district between the Öre and Lögde rivers etc. — pure spruce-forests occupy vast areas where the pine has been so completely ousted that it is positively a rare tree. The spruce-forest of Norrland is marked by a soft brownish-green covering of moss, above which rise low dwarf-shrubs such as blueberry, linnea (*Linnæa borealis*), different species of pyrola and lycopodium; and here herbs and grasses are somewhat more prominent than in the pine-forests. A type of wood peculiar to the northern region of coniferous forests is the swamped spruce-forests that occur both on the more level ground and also on the slopes of the moraine shelves. The predominant plants in the ground-covering are bog-moss (*Sphagnum*), bear moss (*Polytrichum commune*) and such plants as thrive in moist peat-bogs, e. g., cloudberry (*Rubus chamæmorus*), horsetail (*Equisetum silvaticum*), sedge (*Carex globularis*). The spruces are slow growers, the crowns are meagre and thin, wrapped in veils, of gray and black lichens. In the Silurian of Jämtland and in southern Lappland there frequently occur spruce-forests rich in herbs, where high-growing luxuriant herbage forms a rank undergrowth.

Along the great rivers, round the streams and brooks, the covering of coniferous forest is broken by light deciduous forests, chiefly formed by the common birch and the gray alder (*Alnus incana*) with a mixture of sallows, high-growing osiers, bird-cherries and rowans. In the not too dense shade there often flourishes a rich undergrowth of broad-leaved herbs and soft grasses.

The **Southern Region of Coniferous Forest** begins, as has been mentioned before, at the northern limit of the oak. The enormous covering of forests which once clothed this part of the country also has here had to give way in a higher degree to cultivation. The vast clay plains in the vale of Mälaren, in the lowlands of Närke, and the plains of Östergötland and Västergötland are amongst the most important agricultural districts in the whole of Sweden; and, broadly speaking, cultivation has laid claim to the greater part of the country below the highest marine limit. As in the northern region of coniferous forests, the uncultivated land consists principally of coniferous forests, formed of pine and spruce; but here we have also a new element in the vegetation, viz., the oak flora, which in the northern region was but feebly represented, chiefly by mere remnants. To the oak-flora belong chiefly a numbers of true deciduous trees, such as the oak itself (*Quercus pedunculata*), the ash (*Fraxinus excelsior*), the elm (*Ulmus montana*), the linden (*Tilia ulmifolia*), the maple (*Acer platanoides*), the hazel (*Corylus avellana*), the blackthorn (*Prunus spinosa*), the hawthorn (*Crataegus oxyacantha*), the honeysuckle (*Lonicera xylosteum*) etc. With these are associated a large number of grasses ond herbs which thrive best in the woods formed of the true deciduous trees.

Photo. GUNNAR SCHOTTE.

Mixed Coniferous Forest in the Southern Region of Coniferous Forest.

Photo. Edv. Wibeck.

Beechwood in Halland.

Within the Southern Region of Coniferous Forests the oak-flora is, to a prominent degree, restricted to the parts most favoured in climate. Plant-associations formed of it are therefore encountered chiefly in the coast-districts, round the lakes, in the river-valleys, and in the upland situations that are free from frost. It is to be observed, however, that it is precisely the oak-flora that has especially had to give way to agriculture. The oak appears in this kind of district chiefly as a tree of medium height with a sparse far-spreading crown. Where the vegetation has been allowed to remain more or less undisturbed, there is found beneath the oaks a rich undergrowth of high-growing bushes — hazel, hawthorn, blackhorn, honeysuckle, thorns (*Rosa*) etc. —, and a grass-and-herb flora of numerous varieties. Closely akin to the oak-forests are the wood-meadows, which in their most distinctive form consist of groups of leaf-trees and bushes arranged park-wise, while the ground between is occupied by a meadowy carpet of flowers. In the southern part of the region there occurs beech, which forms copses or smallish woods.

The coniferous forests are, to a predominant degree, mixed forests of pine and spruce of approximately equal age, often with a slight admixture of birch. This forest-type has often developed from a clear cutting. As in the northern region of coniferous forest, there occur pure pine-forests and pure spruce-forests, and in very poor and barren soil pine-heaths. The ground-covering in the woods is, in general, the same as the northern region of coniferous forests, such differences as exist not being very striking. Where the soil is highly calcareous, as in the Silurian districts, the ground-covering consists of a meadow-like vegetation of grasses and herbs.

The southern region of coniferous forest has a natural south-western limit in Sweden in consequence of the spreading of the spruce. This tree differs from the others in having immigrated from the north-west, immediately from Finland; and from the northerly parts of the country it has gradually spread towards the south and south-west. So far, however, the spruce has not succeeded in spreading itself over the whole of Sweden, but has a south-westerly limit — primarily due to causes connected with the history of the immigration — which passes through southern Bohuslän, south-western Västergötland, the interior of Halland, the south-western part of Småland, northern Skåne, and southern Blekinge (for details see the accompanying map). Outside this limit we come to the region of beech-forest.

The **Region of Beech Forest.** In this region the area of the forests is, to a high degree, restricted through cultivation. Here, too, is to be found the most fertile and best-tilled agricultural land in the whole country. The natural woods are, to a predominant extent, composed of deciduous trees, chiefly beech, along with which the stalked oak *(Quercus pedunculata)* and the sessile oak *(Quercus sessiliflora)* play a conspicuous part. In the coniferous forests only the pine occurs wild, but the spruce has been planted in many places and grows extremely well.

The beech forests are, as a rule unmixed and compact; dry, brown leaves cover the ground, which in spring, before the beeches put forth leaves, is often covered with innumerable anemones, musk woodruff (*Asperula odorata*), yellow-root (*Galeobdolon luteum*) a vegetation which in summer entirely disappears or becomes inconspicuous. The oak here attains forms that are statelier and finer than in the southern region of coniferous forests, and the oak forests are also more compact. On fairly moist ground there occur beautiful forests of common alder (*Alnus glutinosa*).

Though in Sweden the forest forms the type of vegetation conditioned by the climate, yet both the cultivated and the edaphic plant-formations are so widely distributed that they contribute powerfully to the general character of the landscape. The great agricultural districts have, to a predominant degree, had their character determined by agriculture. The variation in the landscape that they effect is due, in no small degree, to the varying distribution of field and meadow and to the use of the soil for different sorts of cultivated plants.

The kinds of cereals that occur in Sweden are rye, wheat, oats, and barley. Wheat belongs chiefly to the central and southern parts of the country; rye is cultivated with good results as far up as Norrbotten, but in Norrland has to yield to barley, which is the most important grain-crop there. Oats also occur in the province of Norrbotten; but in those parts of Norrland that are climatically less favourable they are cultivated only as a green-fodder plant. The cultivation of the potato extends over the whole country, up to its most northerly parts. As fodder-plants timothy and clover are cultivated on permanent pasture-land; but in large parts of Norrland these are replaced by hardy pasture meadows with a highly variegated composition, where a number of plants with beautiful flowers but of little value as fodder are often found in great luxuriance. Through cultivation the flora of Sweden has been enriched by a large number of so-called weeds, which often derive from the Mediterranean lands or Western Asia, such as the corn-flower, various kinds of poppy etc. Not a few of the weeds, however, come from the original vegetation, where their home is on the shores, rocks, and open places in the forests which have been cleared or burnt etc.

A peculiar position in Sweden is taken by the dwarf-shrub heaths. These are in Sweden a kind of cultivated formation determined by climate. They have come into existence through the attacks of man on the forests with axe and fire, and they are preserved by grazing and heather-burning against the re-growth of the forests. This type of vegetation belongs to South-West Sweden, whose comparatively moist climate, with plentiful precipitation, favours its development when the forest disappears. For if the vegetation developes itself undisturbed, both coniferous and deciduous trees push into the dwarf-shrub heaths; and the latter would soon disappear if the young trees were not destroyed by fire, which is often kindled in order to obtain grazing ground.

In the dwarf-shrub heaths the ordinary ling (*Calluna vulgaris*) covers the ground with a close and even carpet, gray-green in spring and summer, violet-red in late summer and autumn. In addition to this there occur blueberries, whortleberries, bellheather (*Erica tetralix*), crowberries (*Empetrum nigrum*), and bearberries (*Arctostaphylos uva ursi*) and scanty grasses and herbs. The area of the dwarf-shrub heaths is calculated at 180 000 hectares; they are annually diminished by extensive afforestation.

The edaphic plant-formations in Sweden occur on such ground or in such spots where tree-vegetation is rendered impossible by excessive moisture or water — such as peat-lands, lakes, shores etc. — or where the soil is so shallow that trees cannot get a sufficient roothold, as on cliffs etc.

The Swedish lake-vegetation is not marked by many species, but is often luxuriant. The shores are bordered by a tall-grass belt of common reed *(Phragmites communis)*, the common bulrush *(Scirpus lacustris)*, the marsh horsetail *(Equisetum limosum)*, high-growing species of sedges *(Carices)*, cat's tail (species of *Typha*), and others. Further out in the water we come to yellow and white water-lilies, species of pondweed *(Potamogeton)*, species of *Batrachium* and *Myriophyllum* etc.

Specially characteristic of the northern coniferous forest is the great stock of species of *Sparganium* with long narrow floating leaves which cover broad areas of water. The lake-vegetation is most luxuriant where the bottom is composed of clay — as a rule, therefore, below the highest marine limit; while lakes with a bottom of gravel or sand have a vegetation which, though rich in species, is quite sparse. On the whole, the water-plant flora diminishes towards the north in both luxuriance and number of species; and the lakes of the Alpine region almost entirely lack flowering plants.

Photo. HENRIK HESSELMAN.

A Forest Tarn.

Owing to the fact that the dead and decaying plant-remains become piled up in the water, many lakes are gradually filled up, and the vegetation from the shores pushes further and further into the water-area, which may at last entirely disappear. The dead-plant remains form peat, and in this way many moors in Sweden have come into existence. From such centres moors may gradually spread out over the surrounding country and so enlarge their domain. In the northern region of coniferous forests moors have often been formed on sloping but water-logged ground; and such "hillside bogs" have attained a considerable extent and are characteristic of that part of the country. The formation of moors is favoured by a climate with a low temperature, which pre-

vents the rapid decay of the plant-remains and causes but little evaporation. They therefore increase in extent and importance the further north one goes, so that in northern Sweden, despite the comparatively small precipitation, the moors are estimated to cover about 30 % of the land area below the forests limit. The nature of the moors varies very much according to the plants which occur in them; and it is usual to distinguish two chief groups — high-moors and low-moors. In the *high-moors* there prevail tuft-forming bog mosses (species of *Sphagnum*) and dwarf-shrubs; in the *low-moors* brown mosses (species of *Amblystegium*) together with grasses, sedges, and herbs. The high-moors occur to a predominant degree in those districts in the southern region of coniferous forests that are poor in chalk and obtain their most characteristic development as high-lying mosses in the south and west of Sweden. The low-moors are distinctive of the calcareous district in both the northern and the southern region of coniferous forests. In the northern region of coniferous forests sedge-moors prevail with a covering of non-tuft-forming bog mosses (species of *Sphagnum*), a number of brown mosses (species of *Amblystegium*) and numerous species of sedge, which type forms a kind of transition between low-moor and high-moor.

On the shores of the sea the vegetation has obtained its distinctive character from the salinity of the soil. Thick-leaved, juicy plants with a blueish waxy coat there form a characteristic vegetation, which is most striking on the west coast of Sweden and in the southern part of the Baltic, but which diminishes more and more towards the north, in proportion to the decrease of the salinity and which is but feebly represented on the shores of the Gulf of Bothnia. In many places along the coasts, especially in the Gulf of Laholm, in East Skåne, on Gotska Fårön and Gotska Sandön, there are found districts of drift-sand with sand-binding grasses characterized by their build and mode of growth, such as maram *(Psamma arenaria)* and lymegrass *(Elymus arenarius)*.

Below the highest marine limit the sea has often washed away the loose layer of soil from the projecting rock-bottom. After this the weathering, especially on the primitive cliffs, has been feeble. On these last, therefore, the vegetation is limited to mosses and lichens, a number of herbs and grasses, most of which have their period of vegetation proper in spring and early summer, while trees and bushes have been able to obtain a sufficiently firm foothold only in crevices and rock-fissures. In Öland, Gottland, and Västergötland there occur in the calcareous ledges of rian limestone — whether bare or covered with a thin layer of weathered rock — peculiar flora, marked by a love of chalk and warmth, which shows close kinship with steppe-vegetation. Such districts with calcareous ledges, bare or slightly covered with earth, are named *"alvar"* and are peculiar to Sweden. Where the calcareous ledges are deeply weathered they can bear trees, but only of an inferior quality.

The **sea,** too, has its peculiar vegetation, which is chiefly composed of

sea-weeds and is most richly developed on a firm bottom. Besides, the development is chiefly determined by the strength of the light and the salinity of the water. Best developed on the west coast, where the water is most saline, this vegetation becomes poor and changes its character in the Baltic and the Gulf of Bothnia in proportion to the diminution in the salinity towards the north.

Photo. GÖSTA FLORMAN, Stockholm.

At the Mill-pool, Rättvik in Dalarne.

The decrease of light as the depth increases causes a distribution of sea weeds into different depth-belts and only allows their descending to a moderate depth, in great abundance only to about 40 meters. Three depth-belts have been distinguished. On the west coast the upper one — the *litoral belt* — is characterized by bladder seaweed (*Fucus vesiculosus* L.), knobbed wrack (*Ascophyllum nodosum* Le Jol.), cutweed or black wrack (*Fucus serratus* L.), and other great olivaceous or brown sea-weeds; the middle one — the *sublitoral belt* — specially by thick masses of deep-sea tangle (*Laminaria saccharina* Lamour. and *digitata* Lamour.); and to the lowest — the *elitoral belt* — gorgeous red rea-weeds (*florideae*) give a distinctive character. Laminaria cannot stand the brackish water of the Baltic; and even thr florideae diminish as one passes up the Baltic. Here the elitoral belt does not exist; but on the other hand the green sea-weeds often form a green covering of the rocks near the surface of the water, and the above mentioned high-grass belt often characterizes shallow, landlocked bays.

The flora of Sweden immigrated after the Glacial period. When the iceedge retreated, it was followed by a plant-world, which took possession

of the new country. The greater part hereof came from the south, and the first flora was not very exacting of warmth. It is now met with in the Alpine region. After that came the birch and the aspen; after that the pine and a large number of true leaftrees, such as linden, elm, maple, oak. From the east across Finland, came the spruce, and as one of the last immigrants came the beech. Since the immigration of the flora a number of small or so-called elementary species have developed within certain polymorphous plant-families, mostly perhaps within the *Hieracium* family, which counts some 3 000 elementary species that occur exclusively within the limits of Sweden or of Scandinavia.

6. FAUNA.

During the so-called glacial epoch, a geological period lying comparatively near to our own time, the whole of the Scandinavian peninsula was, as the greater part of Greenland now is, covered with ice, which undoubtedly excluded from these regions practically all animal and plant life. By degrees, however, other climatic conditions made their appearance; a warmer period succeedes the old one; and the masses of ice covering Scandinavia began to melt away; and the country became once more habitable. The ice was gradually followed, in its retreat northwards, by the existing flora and fauna, which thus entered the country at a comparatively late period. (Cf. the preceding chapters.)

It is thus evident that in the Scandinavian peninsula there cannot be found ancient forms which differ widely from those of other countries. But, on the other hand, owing to climatic conditions and the still extensive forests, a number of forms have been able to survive here which have long since disappeared from southern and central Europe. One consequence of the nature of the climate is the great difference displayed in animal life, especially by the insects and birds, in summer and winter. As for the birds, this difference, to a great extent, is due to the great number of migrants, which come in spring to breed, enlivening the landscape from the high mountains and great mountain lakes down to the lowland and sea-coast, and which then fly away in late summer and autumn to warmer climates, leaving mountain, forest and field silent and deserted. In the course of their migration, too, a number of species rest in certain places, which then sometimes display, for several weeks, pictures of changeful and varied bird-life. Such resting-places are southern Öland and Skelderviken; others are more to the north on the eastern coast of Sweden and on the coast of Halland; but in Skåne also, as well as in many places in the interior of the country, some of the Swedish migratory birds stay for a longer or shorter period in the course of their migrations.

Another noteworthy feature of the Swedish fauna — also due to the long, snowy winters — is the white winter-dress of certain birds and mammals, by means of which some of them, such as the hare and the ptarmigan, obtain protection from

their enemies, while others, such as the arctic fox and the weasel, are enabled to steal unnoticed upon their prey. It may also be remarked that the fauna of Sweden, like that of all other northern countries, is marked by its poverty in reptiles and batrachians. Thus, there are found here but three kinds of snakes, of which only one — the viper — is venomous, three lizards, and some ten amphibians, of which latter group, however, the greater number are confined to the most southerly part of the country. As regards the invertebrate terrestrial animals, whose distribution cannot, of course, be treated here, it may be briefly mentioned that the mollusc fauna is fairly rich in species, and that insect life is rich. Even in the northernmost parts of the country there is a considerable number of kinds of insects, and especially a number of beautiful butterflies which are very rare in other localities.

It is obvious that, in a country of such great extent from north to south, and with such varying natural conditions as Sweden possesses, both the land fauna and the flora must present a very different appearance in different districts. The limits between the various districts of the fauna, however, are not so well-defined as those of the flora, for many animals are not so dependent upon the nature of the soil and upon climatic conditions as plants are; besides which they also perform extensive wanderings to tracts where they do not properly belong. Nevertheless there is no reason why certain forms should not be said to characterize a certain district, and others some other tract, while, again, some are spread in suitable localities over the greater part of the country, and some over the whole land, from the northernmost fells to the level fields of Skåne.

Only some few vertebrate animals are spread over the whole country: as, among the mammalia, the common hare (*Lepus timidus*), the common field-vole (*Microtus agrestis*), the ermine and the common weasel (*Putorius ermineus* and *nivalis*), of which however the latter species is less common; and, amongst the birds, the teal (*Nettion crecca*), the solitary snipe and the common snipe (*Gallinago major* and *gallinago*), the golden plover (*Charadrius apricarius*), the dunlin (*Tringa alpina*), the common sandpiper (*Tringoides hypoleucus*), and the wheatear (*Saxicola oenanthe*).

Many more are distributed over the whole of the land which lies below the woodless mountain region. This is the case with the squirrel (*Sciurus vulgaris*), the common shrew, the lesser or pigmy shrew, and the water-shrew (*Sorex araneus* and *minutus* and *Neomys* [*Crossopus*] *fodiens*), the common fox (*Vulpes vulpes*), the most common bat in Sweden (*Vespertilio nilssoni* [*borealis*]), the mallard or wild duck (*Anas boschas* [*platyrhyncha*]), the great spotted woodpecker (*Dendrocopus major*), the cuckoo (*Cuculus canorus*), the common swift (*Apus* [*Cypselus*] *apus*), the hooded crow (*Corvus cornix*), the magpie (*Pica pica*), the yellow bunting or yellow hammer (*Emberiza citrinella*), the chaffinch (*Fringilla coelebs*), the swallows (*Clivicola riparia, Hirundo urbica, Chelidon rustica*), the flycather (*Muscicapa ficedula*), the great titmouse (*Parus major*), the garden-warbler (*Sylvia salicaria*), the redstart (*Phoenicurus phoenicurus*), the fieldfare (*Turdus pilaris*), and, as far as cultivation has reached, the

house-sparrow (*Passer domesticus*). The following reptiles are also widely distributed in Sweden: the common viper (*Vipera berus*), the common snake (*Natrix natrix*), the scaly or common lizard (*Lacerta vivipara*), the blind worm (*Anguis fragilis*). Also the following batrachians: the common frog (*Rana temporaria*), and the common toad (*Bufo bufo*).

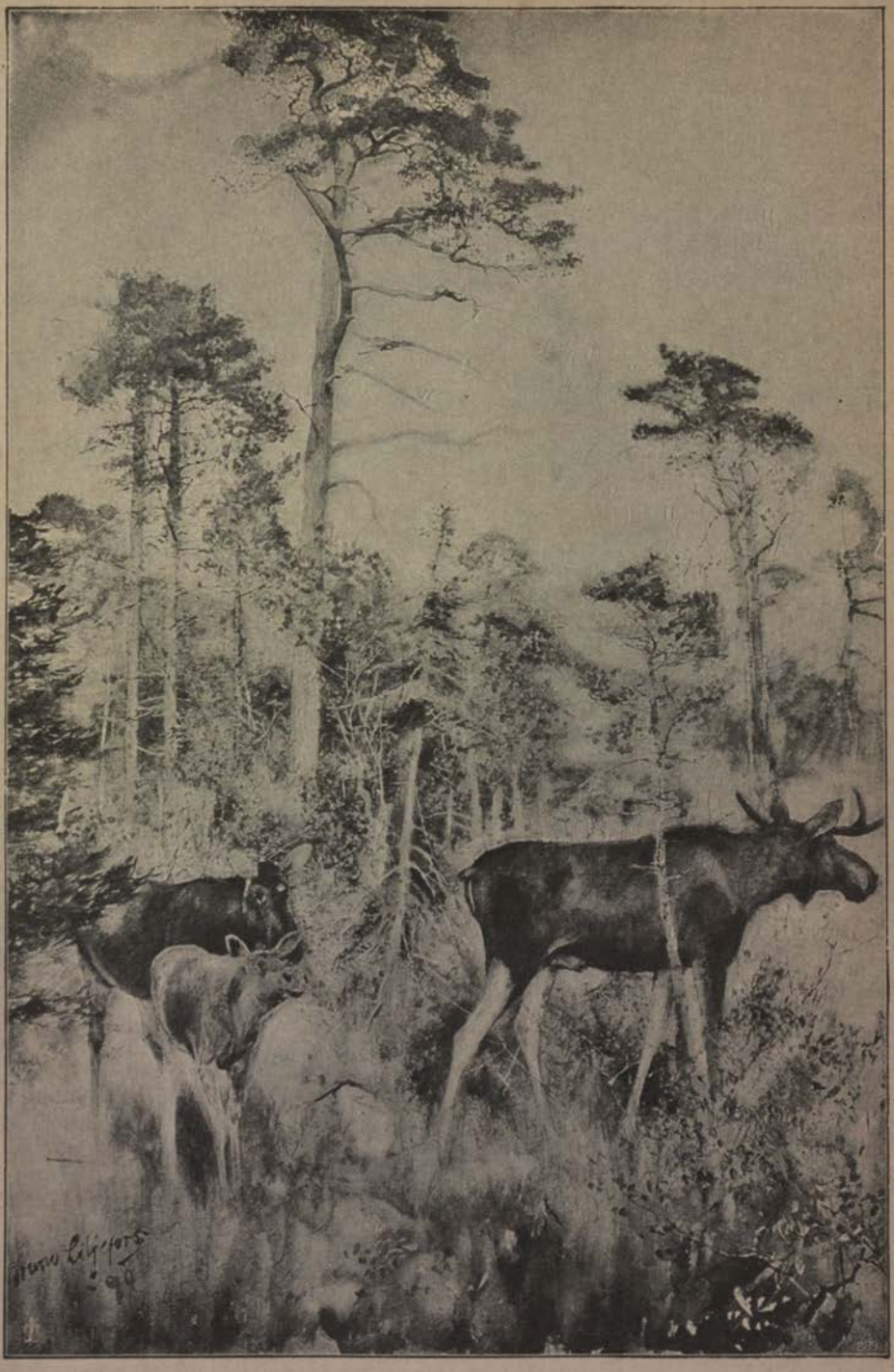
If we now proceed to the various fauna regions which can be distinguished in Sweden, it will be most convenient to begin with the **alpine regions** situated above the tree-limit. There, amongst the mammalia, we meet, besides the hare, the field-vole and the weasels, some northern voles (especially *Evotomys rufocanus*), the lemming (*Lemmus lemmus*) well known for its peculiar migrations, the arctic fox (*Vulpes lagopus*), and the glutton or wolverene (*Gulo gulo*). We ought also to include amongst the fauna of the mountainous districts the wild reindeer (*Rangifer tarandus*), although nowadays not met with on the Swedish side of the mountain slopes. The common bear (*Ursus arctos*) and the common wolf (*Canis lupus*), which properly belong to the deep forests, often occur on the mountains. Amongst the more characteristic birds belonging to this fauna, the following deserve to be specially mentioned: the white grouse or ptarmigan (*Lagopus mutus*), the wild or whistling swan (*Cygnus cygnus*), the white-fronted goose (*Anser erythropus*), the long-tailed skua (*Stercorarius longicauda*), and the red-throated diver (*Colymbus stellatus* [*septentrionalis*]), which, together with a number of ducks and pochards, breed in the mountain waters, the dotterel (*Eudromias morinellus*) and several other wading birds, the rough-legged buzzard (*Archibuteo lagopus*), the white or snowy owl (*Nyctea scandiaca*), the shore-lark (*Eremophila alpestris flava*), the snow-bunting (*Passerina nivalis*), the Lappland bunting (*Calcarius lapponicus*). Others, such as the willow-grouse (*Lagopus lagopus*), the golden eagle (*Aquila chrysaëtus*), the gyrfalcon (*Falco rusticolus* [*gyrfalco*]), the European merlin (*Falco aesalon*), and the ring-ouzel (*Turdus torquatus*), have their proper habitat in the birch-belt and in the northern coniferous forests; but they may also occur in considerable numbers above the tree-limit, though they scarely breed there.

Only a few birds can be said to be characteristic of the **birch region** which borders the fjäll region: such are, the brambling (*Fringilla montifringilla*), the mealy or stone-redpoll (*Acanthis linaria*), the blue-throat (*Luscinia suecica*), the redwing (*Turdus iliacus*), and the red-necked Phalarope (*Phalaropus lobatus*): all these, however, occur also in the upper coniferous region.

The **region of the great coniferous forests** commences on the slopes of the mountains, below the region of the birch, extending from thence, with insignificant interruptions, over by far the greatest part of Sweden; eastwards to the coast-islets of the Gulf of Bothnia, southwards through Norrland over a large portion of Svealand, and continuing, interrupted by the great plains of Östergötland and Västergötland, over the

highlands of Småland. From the standpoint of zoogeography the northern coniferous forests form a self-contained territory (the sub-arctic region); but this division is not followed in this place. We have already mentioned that the common bear and the common wolf have their real homes in the dense forests nearest to the alps. The same is the case with the European lynx (*Lynx lynx*). These, the three greatest of Swedish beasts of prey, had in olden times a much wider range than nowadays; and as recently as 1850—60 there were wolves in Uppland and Västergötland. To the great coniferous forests also belong the pine marten (*Mustela martes*) and the principal antlered denizen of the Swedish forests — the elk (*Alces alces*) — which is found from the Polar Circle as far down as Småland. In the forests-districts of the northern regions we find amongst the birds, in addition to the willow-grouse previously mentioned, the Siberian jay (*Perisoreus infaustus*), which latter is replaced, farther to the south, by the common jay (*Garrulus glandarius*). The capercailzie or wood-grouse or cock of the wood (*Tetrao urogallus*), the hazel-grouse (*Tetrastes bonasia*), the common crane (*Grus grus*), and the woodcock (*Scolopax rusticola*) also belong to the dense forests. In the marshes and lakes within this region, together with a number of lesser waders, ducks, and pochards, the black-throated diver (*Colymbus arcticus*) breeds, and farthest northwards, the bean-goose (*Anser fabalis*) and the golden-eye or garrot (*Clangula clangula*). Numerous birds of prey have also their proper habitats in the forests, as, for example, the goshawk (*Astur gentilis* [*palumbarius*]), the sparrow-hawk (*Accipiter nisus*), the common buzzard (*Buteo buteo*), the honey-buzzard (*Pernis apivorus*), the osprey (*Pandion haliaëtus*), the eagle-owl (*Bubo bubo*). Amongst the small birds which characterize the great coniferous forests, even the southern ones, may be mentioned: the song-thrush (*Turdus musicus*), the redbreast (*Erithacus rubecula*), the siskin (*Acanthis spinus*), the parrot-crossbill and the common crossbill (*Loxia pytiopsittacus* and *curvirostra*) — which last-named have so completely adapted themselves to the northern climate as to lay their eggs as early as February — and further, the bullfinch (*Pyrrhula pyrrhula*), and also some titmouses, viz. the crested titmouse, the boreal titmouse, and the coal-titmouse (*Parus cristatus, borealis,* and *ater*), and the golden-crested wren (*Regulus cristatus*). Farthest up in the north breed the Lappland owl (*Syrnium lapponicum*), the waxwing or waxen chatterer (*Ampelis garrulus*), and the pine-grosbeak (*Pinicola enucleator*). The great black woodpecker (*Dryocopus martius*) may also be reckoned as chiefly belonging to the coniferous forests. The black grouse or black-cock (*Lyrurus tetrix*) may also be said to belong to the forest-district, even though its proper habitat is the border of the great forests, and the smaller woods in the plains.

The **level-country region,** including small wooded tracts and park-areas as well as open plains, embraces part of Svealand and the greater part



An Elk family.
From a painting by BRUNO LILJEFORS.

of Götaland. Here chiefly is the habitat of the common fox. To the same tract belong the badger (*Meles meles*) and the common hedgehog (*Erinaceus europaeus*); while the roedeer or roebuck (*Capreolus capreolus*) is found in the southern parts of this district, as far as Västergötland and Östergötland. As belonging principally to the level country, we may mention amongst the birds: the common partridge (*Perdix perdix*), the kestrel (*Cerchneis tinnunculus*), the hobby (*Falco subbuteo*), the long-eared owl (*Asio otus*), the tawny or brown owl (*Syrnium aluco*), the green woodpecker (*Picus viridis*), the skylark (*Alauda arvensis*), the nut-hatch (*Sitta europaea*), the jackdaw (*Coloeus monedula*), the goldfinch (*Carduelis carduelis*), the linnet (*Acanthis cannabina*), the whinchat (*Pratincola rubetra*), together with the stock-dove (*Columba oenas*) and the ring-dove (*Columba palumbus*), both of which latter, however, are met with pretty far in the forests, the ring-dove being found even up in Jämtland. The landrail or corn-crake (*Crex crex*) is also chiefly distributed within this region, and the same is the case with several ducks, especially the wild duck. Together with this last bird, we find in the lakes of this district the coot (*Fulica atra*) and the great crested grebe (*Podiceps cristatus*).

In the most southern tracts of what has here been called the level country, viz. in Skåne and the neighbouring provinces, there occur, besides the majority of the species above enumerated, a number of other species which, on their way to the north, have been compelled by climatic conditions to remain in these tracts. This is the case with the common stag or red deer (*Cervus elaphus*) and the fallow deer (*Cervus dama*) — which, however, was not originally found wild in Sweden — the polecat (*Putorius putorius*), the common mole (*Talpa europaea*), a number of bats; and among the birds, the common stork (*Ciconia ciconia*), the common heron (*Ardea cinerea*), the rook (*Corvus frugilegus*), the crested lark (*Galerida cristata*), the common bunting (*Emberiza calandra*), and the nightingale (*Aedon luscinia*). The mute swan (*Cygnus olor*), too, has its chief habitat in the southernmost parts of the country, but is also found fairly numerously in Uppland. As we have previously mentioned, the greater number of the batrachians of Sweden also belong to the most southern part of the country.

The animal life of Skåne, however, was widely different in former days from what it is now. Thus, in the peat-mosses there have been found the bones of the wild reindeer as well as of the elk and the beaver, both of which long ago wandered further north, and the latter of which now is quite exterminated in Sweden. In the same districts there have also been found bones of the wild boar and of two great species of wild bulls: the aurochs (*Bos taurus primigenius*) and the bison (*Bison bonasus*). The aurochs has long been extinct, but the bison still lives in Lithuania and on the slopes of the Caucasus. In the peat-mosses of Skåne, bones of the fresh-water tortoise (*Emys orbicularis*) have been met with; but this animal is no longer to be found there.

It now remains to cast a glance at the extensive clusters of **coast-islets** skirting Sweden. It is principally here that we find the common otter (*Lutra lutra*), although it often goes far inland along the watercourses. The birds which are characteristic both of the eastern and western coast-islets are, besides the common gull (*Larus canus*), which is also found on inland lakes here and there in the country, the lesser black-backed gull (*Larus fuscus*), the herring-gull (*Larus argentatus*), the great black-backed gull (*Larus marinus*), the common tern (*Sterna hirundo*), and some of other terns; the "Arctic" skua (*Stercorarius parasiticus*), the eider duck (*Somateria mollissima*), the black guillemot (*Uria grylle*), the oyster-catcher (*Haematopus ostralegus*), the turnstone (*Morinella interpres*), the ring plover (*Aegialitis hiaticula*), the sea-eagle (*Haliaëtus albicilla*) — which, however, also breeds far inland — the raven (*Corvus corax*), and the rock-lark (*Anthus obscurus*). On the eastern coast-islets are also seen the razor-bill (*Alca torda*) and the velvet-duck (*Oedemia fusca*), which last also breeds in the lakes of Norrland. There also live, far out on the coast-islets, a number of birds previously mentioned, such as the crow and the wagtail. We may besides count among the inhabitants of the coast-islets the seals, of which one species, the ringed seal or "floe-rat" (*Phoca hispida*), is found in the Baltic alone; the two other Swedish species, the grey seal (*Halichoerus grypus*) and the common seal (*Phoca vitulina*), also occur on the west coast.

Eagle Owl.
From a painting by BRUNO LILJEFORS.

Finally, the **rivers and lakes** of Sweden are rich in various fishes, the greater number of which are edible. These, including the crayfish, which is also the object of a remunerative fishery, are treated in the article on the fisheries of Sweden. These waters also contain a wealth of larvae and of smaller, inferior forms of animal life, principally crustacea of the entomostracan tribe, which is numerous also in the seas surrounding Sweden.

The water of the **Baltic,** which was a lake in early times, has a comparatively small percentage of salt. The natural consequence is that only very few marine forms have been able to immigrate, so that its fauna may be said to be poor in species. In its islet-waters, however, there live a certain number of fresh water fishes. In the southern part, where the water is a little more brackish, there are also a number of real sea-fishes, of which the codfish (*Gadus callarias*) comes even far up inte the Gulf of Bothnia. The variety of herring (*Clupea harengus*) known by the name of *Strömming* and distributed also over the Gulf of Bothnia, is incomparably the most important product of the fishing industry in the Baltic. Here, a small whale, the common porpoise (*Phocoena communis*), also at times roams as far as north of the sea of Åland. Among invertebrate animals there are, with the exception of entomostracans, but few forms in the Baltic and its bays. Towards the Sound the fauna grows richer; and on the western coast of Sweden, in the Kattegat and the Skagerack, we find a fully developed marine fauna.

II.

THE SWEDISH PEOPLE.

1. SURVEY OF ITS HISTORY.

The people which at the present day inhabits the kingdom of Sweden is believed to have had its dwelling-place there for an unbroken period of at least five thousand years — a longer period than any other European nation, whith the exception of the kindred race in Denmark, can boast of having dwelt within its present boundaries.

There are traces of an earlier population than the present — a population that perhaps goes ten thousand years back; but it is not possible to determine whether those tribes of hunters and fishers belonged to the present race or to another. Since the beginning of the later **Stone Age** at any rate, Sweden has been uninterruptedly inhabited by its present race, the *Swedes,* belonging to the Germanic branch of the great Aryan family.

It is still a matter of debate whether these Aryans entered the country from the south-east, perhaps from Asia, or whether the race originated along the southernmost shores of the Baltic. In the latter case, Teutons must have inhabited southern Scandinavia from time immemorial, or, at all events, the earliest settlers must have arrived by the path pointed out to them by nature, across the Great and Little Belts and the Sound, into Skåne. From the name Skåne the whole of the North afterwards came to be called Scandinavia. Subsequent colonization first followed the west coast, attracted perhaps by the rich salmon fishery of the rivers. By way of the Göta älv it reached the level country of Västergötland; from thence, by way of Lake Vättern, to Östergötland; and from the northern end of that lake to the foremost district of Svealand, around Lake Mälaren. It would seem that the east coast did not become peopled until somewhat later, its occupation being due perhaps to the fishery of the Baltic herring.

For *fishing* has, from ancient times, been a surer and a more plentiful source of food than hunting. In consequence of this, and because of the easy means of communication, the population of Sweden first settled around the navigable waters of the country. But even during the Stone Age it went through the ordinary development from fishing and hunting to the rearing of cattle and the

beginnings of agriculture. Every fresh advance meant the possibility of feeding a larger population upon the same extent of ground; and the tribe which effected such an advance thereby gained an advantage over its more backward neighbours. The relatively high degree of culture that was attained by the inhabitants of the North as early as the Stone Age, and is proved by their fine tools and weapons, is best accounted for by the riches which flowed into the country in consequence of the trade in amber, which in the South of Europe was as highly valued as gold.

This wealth continued to flow into the North during a large part of the **Bronze Age** too; and, under the influence of increased prosperity, the manufacture of tools and of weapons was developed to a degree of artistic skill that was only equalled in the lands bordering on the Mediterranean. Bronze seems to have been pretty generally introduced into Sweden about 1750 B. C., and then, probably, in exchange for the much sought-for amber. The economic development which made this artistic skill possible presupposes, in its turn, the existence of a comparatively well-ordered social organization, due, as usual among the earliest Aryan peoples, to a gradual development from the restricted internal relationship of the family to the wider circle of the community. The existence of such communities is also proved by the enormous stone graves, which must have required the systematic co-operation of hundreds of people for their erection.

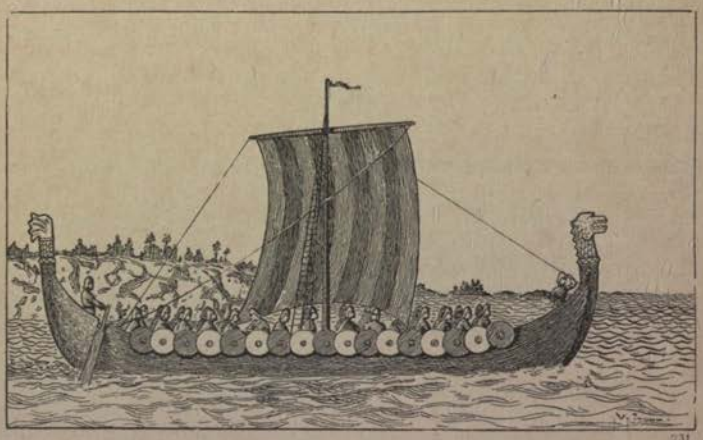
It is not until the **Iron Age** (from the year 500 B. C.) that the Swedish people first appears upon the stage of *history*. Like bronze, iron came from the South of Europe by the trade-routes which took their course through Europe along the great rivers; and new cultural influences followed in its track. It was now — the exact date is still uncertain — that there first appeared *runic inscriptions*, an imitation of the alphabetical writings of southern peoples. Already there were cultivated tracts around Lake Mälaren and far north towards the shores of the Gulf of Bothnia. As far as we can judge, the culture of Sweden at that time must have closely resembled that described by Caesar and Tacitus as existing among the Teutons who first encountered the armies of Rome. The formation of communities grew in ever wider and wider circles: from the family to the hundred ("härad"), and from that to the county or province. The earlier phases of this development must certainly be dated much farther back than the time usually accepted; but the formation of communities proceeded during a continued series of disturbing interruptions. According to the conceptions of law early developed among the Teutons, heads of the clans and kings considered their territories as the freehold or possession of the family. This possession was inherited in accordance with the same rules that held good for other allodial property, in such wise that younger sons too had to have a share in the inheritance. As soon, therefore, as a father had more than one son, it became an impossibility to keep the kingdom together; and the Ynglinga Saga describes how the earliest realm in Svealand became rent by incessant divisions among brothers.

When the clans of the North first began to congregate into *larger kingdoms*, it was natural that those regions united between which water formed a means of communication. The seas united, whilst mountain and forest divided; and thus the Danish realm gathered about the Sound and the Great and Little Belts, and the *Swedish* realm about Lakes Mälaren, Vänern, and Vättern, whilst the isolated mountain glens of Norway were the last to attain political unity. We know, from English sources, that about 500 A. D. there ruled in Svealand a family named *Skilfingar*, which, by means of conquests, extended its way towards Götaland. When the native Swedish traditions first attain to any degree of credibility, the territory of this race had already dissolved into petty states, which corresponded pretty nearly to the existing provinces of Sweden. But there was still at

Uppsala a great and much honoured *God House (gudahov)*, looked up to by all the kings and peoples of Sweden. By degrees, this God House acquired ever greater estates throughout the whole country; and without any other dominion than these estates, its ruler was at last able to defy the petty monarchs of the country. By guile and by force, king *Ingjald* gained possession of their kingdoms, thereby laying the foundations of **the Kingdom of Sweden proper.** It is difficult to determine the date of this event, but it was probably about 700 A. D. The kingdom of Sweden as an undivided whole is thus, at the present moment, about 1200 years old, and is consequently older than any other state now existing in Europe.

The extent of the Swedish kingdom at that time did not quite coincide with that of Sweden nowadays: the most southern province, Skåne, still belonged to Denmark, as did also the province of Halland. The northernmost parts of Sweden, too, were then scarcely occupied, only a few solitary Lapps finding their scanty subsistence there.

The ancient Uppsala- or "Ynglinga"-dynasty ruled the kingdom of Sweden uninterruptedly till about the year 1050. To this time belongs that period in the history of the North which was so important for the whole of Europe and which is called



A Viking ship.

The Viking Period (800—1050 A. D.). From time immemorial the inhabitants of the North had made voyages from their extensive sea-coast to the neighbouring lands; but a much improved method of constructing their ships, which made it easier and safer to employ sails, caused these voyages to be extended to far greater distances. From the close of the eighth century, the fleets of the Vikings swarmed round all the coasts of Europe, as far as the Straits of Gibraltar, where the powerful dominion of the Moors set a limit to their advance, which had spread terror and horror wherever else their ships appeared. At home, there was instituted the *ledung*, a forced service at sea which, rendering communication along the coast more easy, powerfully contributed to hold together the kingdoms once formed. From very early times a lively intercourse had existed between Sweden and the lands round the Gulf of Finland, where a numerous Swedish population had been established for some thousands of years. The contact with the mother-country now became very much livelier; and the trade with Asia, between the Baltic and the Caspian Seas, which had arisen in the time of the Caliphate, attracted

the Swedes (*the Varingians*) up the great rivers, further and further into the eastern continent, whose loosely united tribes could not resist their march. By the year 862, the Varingians had founded a dominion here, which, however, soon fell to pieces again; but in a short time messengers came to Sweden — probably from the Swedes who had remained in the East — demanding chiefs. It was then that *Rörek* (or Rurik), at the head of "all the Rus" — i.e., the entire Swedish contingent of enlisted sea-warriors of the east coast ("Rodslagen") — founded a dominion around Lake Ladoga and the city of Novgorod, which from his warriors — "rodsbyggare" or "rodsmännen" — at length obtained the name of *Russia*, and soon extended over the greater part of eastern Europe. From thence, the Viking fleets pursued their way down to the Caspian Sea, while Swedish Varingians in great hosts offered their services to the Emperor at Byzantium, and to the King of Georgia.

The expeditions of the Vikings accelerated in a high degree the introduction of Christianity into the North. In the year 829 *St. Ansgarius* came to Sweden, sent by the King of the Franks. But the Christian mission which he founded in the heart of the country, at the royal town of Birka, on an island of Lake Mälaren, could not survive, surrounded as it was on all sides by pagan territory. The great House of Gods in Uppsala was too near; and as high-priests who directed the sacrifices there, the kings could not be favourably disposed towards a faith which threatened the very foundations of their dominion. Nearly two hundred years passed away before Christianity once more gained a secure foothold in Sweden, by way of the more favourably situated province of Västergötland.

During this time the kingdoms of the North grew in power; and for a short time there was formed, in northern and eastern Europe, a highly developed political system, somewhat resembling that of modern days. Sweden's greatest name during this period is the famous king *Eric Segersäll*, whose long and glorious reign raised Sweden to the position of by far the most powerful state in the North: towards the end of his career he subjugated even the Danish kingdom, which, however, was lost again after his death.

About the year 1000 Sweden had its first Christian king, who bore the name of *Olof*. After this time Christianity gained a firm footing in the country, and never more suffered itself to be expelled from the land. But, as a consequence, the king was placed in a false position. The basis of his power was his position as director of the sacrifices at Uppsala. It is uncertain whether the king ceased to direct these sacrifices, or continued to do so, in spite of his baptism. But in the former case his position was threatened among the pagan, in the latter among the ever-increasing Christian population. The old royal house of Uppsala died out with the sons of Olof — after the year 1050. Its last king, *Emund Gammal*, vigorously tried to defend his position against ecclesiastical pretensions, which grew in the same degree as the power of Christianity increased; but during this struggle he could not prevent the province of Blekinge being wrested from Sweden — to which it had belonged of old — and united with Denmark.

The Viking Period gives one the impression of having been an epoch of real greatness; but its enormous display of power had to a high degree sapped the strength of the people, the numbers of which had diminished, not least owine to emigration to the tributary states in the east. The encounter with Christianity, which after the time of Charles the Great had spread through northern Europe with irresistible might, had had a disastrous influence upon the primitive culture of the North. The old belief in the Asar (the old northern gods) had died out in many minds, without being replaced by a new Christian belief. But, at the very moment of its death, the ancient faith evolved a poetic conception of

transcendent beauty. In resemblance to earthly conditions, the ancient Odin was imagined as enthroned in Valhalla, a celestial supreme king with his counsellors and his court. But in the end, this Odin and his fellow-gods did not satisfy the moral demands of their worshippers, and were therefore doomed to downfall.

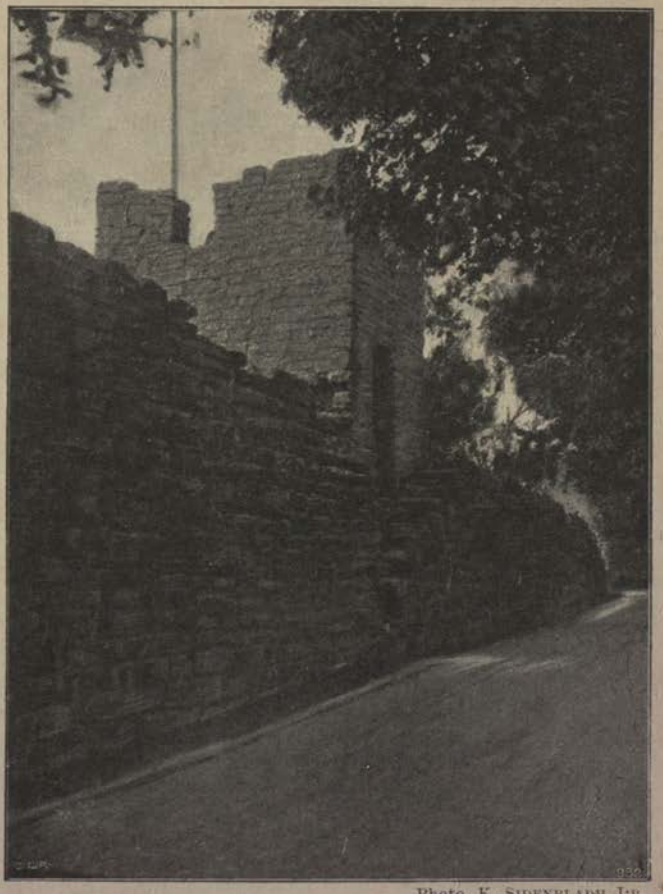


Photo. K. SIDENBLADH J:R.

Part of City Wall of Visby.

The Period of Transition embraces the years 1050—1250. It is marked by long and severe internal conflicts, chiefly between Christianity and Paganism, but also, as a consequence thereof, between the different provinces: between the Swedish inhabitants of Uppland and the Goths of Östergötland and of Västergötland, who could not agree on the question of succession to the throne. During the course of these struggles, the kingdom by degrees became an *elective monarchy*, in which the *people of Uppland* had the acknowledged right to choose a king, who should afterwards be approved by the *Thing*, or Parliament, in each of the other provinces. It was, however, difficult for this new arrangement to take firm root, and it was subjected to many exceptions.

At first it seems as if a powerful family in Västergötland, called from its first king the *Stenkil Line*, took unopposed possession of the throne of the old

kings, with whom the Stenkil family was related on the female side. *Inge*, the son of Stenkil, endeavoured, in obedience to an order from the great Pope Gregory VII, to hasten by force the conversion of the pagans, but only succeeded in irritating them to opposition and a renewed demand that he should carry out the sacrifices to the gods, which had of old been a duty of the kings. At first he was defeated and had to retire to the province of Västergötland — by this time an entirely Christian province; but he soon succeeded in attacking and killing his opponent, the pagan king *Blotsven*. This royal family, however, seems to have periodically maintained its power, at least in its native province of Östergötland, and great internal divisions prevailed, in consequence of which Sweden lost Jämtland and Härjedalen to Norway in 1111.

Vadstena Church. In Östergötland.

The Stenkil Line became extinct before 1130. By that time the power of paganism seems to have been broken; but the irreconcilableness of the three chief tribes and of their claims still remained. For a century the male descendants of Blotsven, the *Sverker Line*, with headquarters in Östergötland, competed for the crown with his descendants on the female side, the *Eric Line*, with

headquarters in Svealand, whilst the people of Västergötland leaned, for a time, towards Danish princes descended, on the female side, from the sons of Stenkil. Sverker and his descendants were now earnest Christians and advocates of the claims of the Roman Church, which were confirmed in the year 1200 by the exemption of church-estates from taxation, and of the clergy from temporal jurisdiction. In opposition to this, the line of *St. Eric* seems to have wished to build up the church upon a national foundation; and Eric himself was recognized as a saint by the people only, never by the Pope. By means of a crusade to Finland (before 1160) a beginning was made by him towards the introduction of Christian Swedish culture into that country, and towards the restoration of the Swedish dominion on the other side of the Baltic, which had been lost during the period of religious conflict.

In course of time Christianity won a complete victory in Sweden. The whole country was divided into ecclesiastical districts — parishes and dioceses — and the ecclesiastical law of the Papacy pushed victoriously forward, celebrating its final triumph at the synod of Skänninge in 1248. Thus Sweden was the last of the larger countries in Europe that bowed beneath the dominion of the Roman Church, and this at a time when the Papal power had already seen its most glorious days. Thus the Catholic hierarchy never reached its full power in Sweden, but it has, instead, the merit of having abolished many old pagan abuses; and the monasteries which arose in different parts of the country successfully endeavoured to introduce gentler manners and a better cultivation of the soil.

By degrees, extensive changes took place in the life of the people. Out of the ancient peasant aristocracy there gradually emerged, as in the rest of Europe, a *class of land-owning nobles;* and this gained greater and greater power in opposition to the peasants, who had, in olden times, formed the flower of the people, and had had a decisive voice at the Thing meetings. Above them all rose the *Folkunga House*, a gifted but turbulent family in Östergötland, which soon gained the highest dignities of the State, and made and unmade kings.

The period of transition in Sweden just described — first from Paganism to Christianity, then from a confederacy of small states into a homogeneous kingdom, and, finally, from an ancient Germanic peasant democracy to an aristocratic and hierarchical one — must undoubtedly have been a time of great unrest; but unfortunately the sources of our knowledge of the period are very scanty. As on so many other occasions in Swedish history, great conflicting principles had to be fought out for centuries, while the result of the struggle was not appreciably hastened by the dictation of any central authority or foreign power. As a consequence of the after-effects of the Viking raids, and owing to the incessant internal conflicts, this period was undoubtedly one of weakness for the Swedish people. Amongst noteworthy personages of the epoch, we may mention: the Catholic patron saint of Sweden, *St. Eric* (see above), and our greatest missionaries after Ansgarius, the Germans *Sigfrid* and *Stephan; Eskil*, an Englishman; and *Botvid*, a Swede. Amongst remarkable events we need only mention the great *battle of Lena* in Västergötland (in the year 1208), where an army of Danish knights, called into the country by one of the pretenders to the throne, was almost completely annihilated — an event which survived in saga and song for centuries in the memory of the people. That even during this period a rich intellectual life pulsed through the Swedish people, at least at certain times and in certain places, is proved by the fact that the majority of the famous *popular ballads* of Sweden almost certainly date from this period.

At the close of the period a beginning was made towards the re-conquest of Finland; but not all that is now Sweden then belonged to the kingdom of Sweden — Skåne, Halland, and Blekinge forming part of Denmark, and Bohus-

län, Jämtland, and Härjedalen belonging to Norway. And a great part of Northern Sweden (with the exception of the coast-district) must have been a mere wilderness.

The Folkunga Period (1250—1389). Under the Folkunga Line, whose most important personage was *Birger Jarl*, who ruled Sweden as Protector during the minority of his son Valdemar from 1250 to 1266, Sweden entered into closer relations with the rest of Europe. It had now quite settled down into the new conditions brought about by the introduction of Christianity; and the community more and more assumed the same forms as in other countries at the same time. The peasant aristocracy as formerly existing gave way completely to a thorough division into classes, in which the *Church* appeared as a state within the State, and the *Nobility* raised itself above the people, whose right of decision it commenced to usurp at the diets of the lords, while its principal men, surrounded the King in the capacity of *Councillors of State*, and often dominated him. The *Towns* and their citizens developed by means of a brisker internal and foreign trade. Communication with foreign lands was mainly conducted by means of the Hanse towns, from which a number of Germans migrated into Swedish towns and also laid the foundation of a mining industry.

Within the country great activity prevailed in the field of legislation, under the leadership of the Kings. Here, too, general European standards of right find their way into Sweden: the position of women became ameliorated, and serfdom was abolished. The laws of the old provinces were committed to writing, and collected, in 1347, into one common law for the whole State, which, at the end of the same century, was accepted by all the provinces. Thus, a great step was taken towards uniting the ancient Swedish confederacy of provinces into a unitary state. The Nobility was established by the introduction of military service by Magnus Ladulås (about 1280), by which mounted service in war conferred exemption from taxation, and grants of landed estates were made in payment for service to the State. An organized, hereditary feudal system, in the general European form, did not come into existence, however, and feudalism happily never won a footing in Sweden.

The southernmost provinces (Skåne, Halland, and Blekinge) were united for a short time to Sweden; but lack of highroads and the easy communications across the Sound necessarily brought them in relations with Denmark, under whose rule they soon came again. But as mistress of both shores of the Sound, Denmark could, at will, favour or obstruct the maritime intercourse of Sweden with foreign parts; and the relations of Sweden to Denmark were, for centuries, one continual conflict for possession of the Sound. In order to secure other roads outwards, Sweden was obliged to cultivate friendship with the Hanse towns and the Counts of Holstein; and the family ties knitted by the kings with Holstein, Denmark, and Norway alternately, mark the course of the foreign policy of Sweden. Towards the East, Birger Jarl (before 1250), and Torgils Knutsson (before 1300), carried through the conquest and christianizing of Finland; but in face of the powerful Great Novgorod they failed to restore the ancient influence of Sweden in Russia.

A constant source of internal weakness were the unhappy *fraternal quarrels*, caused by conferring, in accordance with an ancient Germanic custom, dukedoms upon the younger brothers of the kings. These conflicts weakened the royal power, at the expense of which that of the nobility increased. During the reign of the well-meaning *Magnus Ericsson*, who was popular but weak, the great lords became so powerful that at last they deposed the king and his line and called in his German kinsman, *Albrekt of Mecklenburg* (1363 – 89), in order

that, under his rule, they might govern just as they pleased. The reign of Albrekt was the period of the greatest impotence of the monarchy, and of the highest but not the most honorable power of the nobility. It happened that, at this time, the ancient royal lines in the three kingdoms of the North almost simultaneously became extinct, and the right of succession to them all fell upon a woman, Queen *Margaret* of Denmark. The Swedish lords who were discontented with King Albrekt, offered her the crown of Sweden; and after Albrekt had been defeated at the battle of Falköping (1389), there came about the union of the three kingdoms of the North, Sweden, Norway, and Denmark. This was the beginning of the last period of the Middle Ages in Sweden — what is called the Union of Kalmar.

The Folkunga Period, which had now came to an end, had been much more productive of eminent personages than the preceding centuries in Sweden. *Birger Jarl*, *Magnus Ladulås*, and *Torgils Knutsson* were all dominating personalities of a notable rank; and moreover — what was assuredly a rare thing in other countries during the Middle Ages — they were at the same time, animated by a desire to promote the welfare of the lower people.[1] The most renowned personage in Sweden during the period, however, is a woman, *St. Bridget* (Birgitta). St. Bridget is, indeed, the first Swede, whether man or woman, since the days of the Viking expeditions, to become a figure of international importance. Her memory is associated primarily with the order of St. Bridget, which was founded by her, and whose principal convent in Sweden was situated at Vadstena.

Of the events of the period, by far the most noteworthy was the "*Great Death*", or the Black Plague, which raged throughout Europe about the year 1350. In the North its ravages seem to have been destructive in an ununsually high degree, even if it be granted that the contemporary accounts must be considered as exaggerated. It is a fact, however, that, in some places at least, the cultivation of the soil at this time underwent such a retrogression that it could not recover for centuries afterwards.

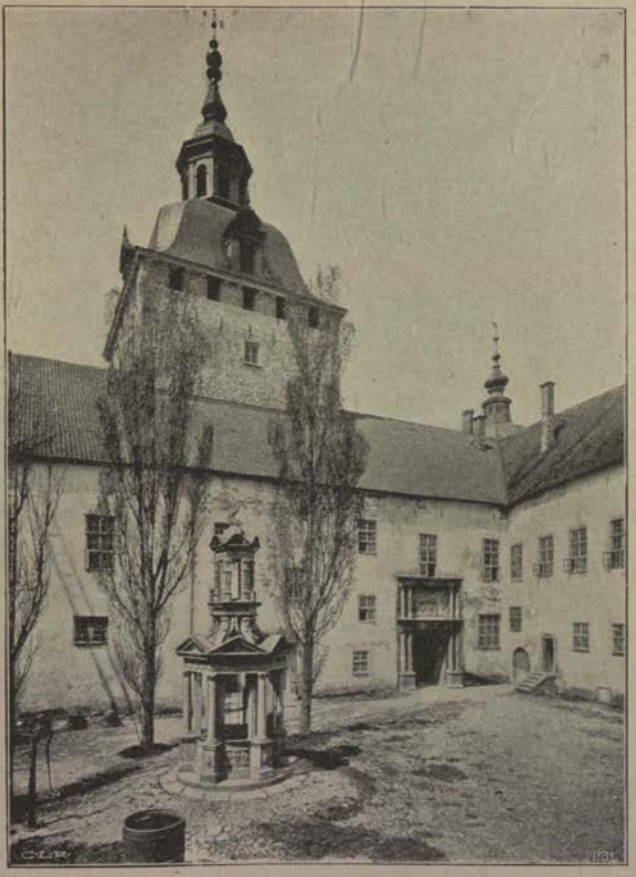
The boundaries of Sweden proper at the close of this period were unchanged from those given on page 88. On the other hand, the conquest of Finland was now completed.

The Kalmar Union (1389—1523). The Union of the northern kingdoms at this time was, as Geijer's famous phrase expresses it, "an event that looked like a thought". The three kingdoms were, it is true, very closely related in language and manners; but they each went their own ways in the main — Denmark having its principal interests to the south, Norway to the west, and Sweden (besides, indeed, its connections with south and west) to the east. The great distances also formed a powerful hindrance to the realization of unity. What, under other circumstances, might have been won by this approach to a union, was therefore not gained; and at the dissolution of the union, the three nations separated with but an increased feeling of independent distinctness, at least as far as Sweden and Denmark were concerned.

The very next successor of Margaret, *Eric of Pomerania* (1412—39), by his acts of feudal aggressions and the unbearable oppression exercised by his Danish bailiffs, caused a rising of the peasantry of Sweden, which ended in the deposition of the monarch, who finally lost Denmark and Norway too. This popular insurrection (1434—36), under the leadership of the noble *Engelbrekt*, is one of the most important events in Swedish history. In fact, it was then

[1] The name "Ladulås", given to King Magnus means "a lock for the [peasant's] barn", and refers to the legal protection given by the king to the peasantry against the rapacious higher classes — undoubtedly one of the most beautiful by-names ever received by a king.

that the national consciousness of Sweden was brought to life. The small provincial dominions, with their separate interests and mutual jealousies, disappear from its annals; and for the first time there appears upon the stage of history *a united self-conscious Swedish nation.*



Kalmar Castle.

From this time onwards, the rest of the Kalmar-Union Period presents the spectacle of almost unbroken strife between Sweden and Denmark, now upon the field of battle, now again at numberless diplomatic negotiations and meetings. The fundamental principle that the king should be chosen by the three nations together, was continually being set aside by the Danes, who chose the king themselves, and then tried to force his acceptance upon tho two other nations. Under these circumstances there arose in Sweden two parties, one which worked for the Danish kings, and the other a national party, which desired to hand over the government of Sweden to Swedes — forming a kind of provisional administration and bearing the name of "Protector of the Realm" (*riksföreståndare*). At the head of the latter party there usually stood members of the two *Sture* families; and these looked for support to the peasantry of Sweden.

The Ornässtugan. Wooden house in Dalarne, from the 15th century.

The mighty national awakening which thus rallied the Swedish people to fight against the Union, powerfully contributed to the development of the culture and social conditions of the country. Weapon in hand, the peasant had incessantly to defend his own liberty and that of his country; and it followed, therefore, as natural consequences, both that he succesfully retained the seat and vote he had previously had in the Riksdag (or Parliament), and also that the influence of the Estate of the Peasants at these meetings was often the predominating one. With this secure basis for their power, the Stures were, so to speak, uncrowned kings; and under their hands the fabric of the Swedish commonwealth was built up on an ancient national foundation. For the most part, too, they held their own against the Danish kings, even when the latter received the help, as not unfrequently happened, of an important part of the Swedish Nobility, and of the Clergy.

After the last Protector of the name of Sture, or *Sten Sture the Younger*, had lost his life in 1520, in a battle against King *Christian II*, the last-named monarch once more succeeded in restoring the Union. But in consequence of the insane deeds which began with the "Massacre of Stockholm", and caused several hundreds of the best men of Sweden to be treacherously put to death, he made his rule so detested that, in a few months, the whole of Sweden was again in a state of insurrection. This time it was the renowned *Gustavus Vasa* who placed himself at the head of the war of liberation; and with the successful completion of the war, and the proclamation, in 1523, of Gustavus Vasa as *King* of Sweden, the days of the Kalmar Union were past for ever.

The period we have just described belongs undoubtedly to the most romantic epochs of the history of Sweden. The *Peasantry's Period of Greatness* (1434—1543) is not less full of general human interest than the almost contemporaneous and similar period in Switzerland, although not so well known as that. The constant

struggles, indeed, waged against external and internal foes often possess dramatic qualities worthy to be depicted by the pen of a Shakespeare. During a time when in the rest of Europe chivalry was already on its decline, it flourished again in Sweden with a beauty yet further increased by the circumstance that the knight here comes into close union with the lowest ranks of the *people*, puts himself at their head, and, by their aid, successfully champions the cause of a common fatherland. Such figures of true romantic beauty as that of *Sten Sture the Younger*, who was in truth a knight "sans peur et sans reproche", are seldom to be found in history; and his spouse, *Christina Gyllenstierna*, stands worthily by his side, equal in courage and greatness of soul to any of the most celebrated women of history. During this period Sweden produced such statesmen and commanders as *Engelbrekt* (one of the brightest figures in the story of the world), and *Sten Sture the Elder*, under whose rule of nearly thirty years the cultural development of Sweden made extraordinary progress. It was during his time that Sweden obtained its first university, that of Uppsala (1477), which is, moreover, the oldest in the whole of Scandinavia.

Of the richly varied events during this period, the murder of Engelbrekt, by the treachery of a jealous rival (in 1436), and the *Battle of Brunkeberg* (1471) have fixed themselves most indelibly in the national memory. The battle just mentioned, which was fought by Sten Sture the Elder within the present limits of the city of Stockholm, ended in the complete victory of the Swedish army over the Danish King, and secured for Sweden twenty-five years of peace — a thing without parallel during the Union period. In the general enthusiasm at this success, the people also rid themselves of an old dependence on the *Germans*, by repealing the regulation which had hitherto held good that one half of the governing body in every town should consist of Germans. That such a

Photo. Fr. Klemming, Stockholm.

Vadstena Castle. On lake Vettern.

condition of things could ever have come into existence, clearly shows how undeveloped the *economic* life of Sweden still was at that time. In economic matters Sweden sat at the feet of Germany during the whole of the Middle Ages; and it was Gustavus Vasa who first created, in this as in almost all other respects, a perfectly independent Sweden.

The exterior *boundaries* of the country remained unchanged during the whole of this disturbed period. The island of Gottland, however, fell more and more often into the power of Denmark, and was formally surrendered to that country during the next period (in the year 1570).

Modern Times

[from 1523 onwards].

The Period of Sweden's Re-birth (1523—1611). The line of the Vasas, which now ascended the throne of Sweden, is one of the most gifted and one of the most illustrious and celebrated families known to history, and *Gustavus Vasa* (1523—60) is one of the dominant figures amongst the great rulers of the world.

His services to Sweden may be very briefly expressed by the word given above — *Re-birth*. He rallied once more a half annihilated nation, he freed it from its *political* dependence upon Denmark, its *economic* dependence upon the Hanse towns, and its *ecclesiastical* dependence upon the Papal power. The traces of nearly a century of warfare were obliterated by newly awakened, peaceful industriousness; and under Gustavus Vasa Sweden, for the first time, assumed its position as a distinguished member of the state-system of Europe.

Stockholm. In the middle of the 17th century.

In carrying out all this the King, by reason of his personality, remained an object of the undisguised reverence and love of his people. In spite of a certain vehemence of temperament and an excessive patriarchal omnipotence, "Good old King Gösta", both to his own contemporaries and to posterity, was the beau ideal of a Swedish king; and his figure — far less familiar to foreigners than those of his famous successors, Gustavus Adolphus the Great and Charles XII — has not at all been overshadowed by theirs in the memory of the Swedish nation.

In 1544, King Gustavus succeeded in making the kingdom of Sweden *hereditary* in his family; but an hereditary kingdom, according to the ideas of the times, brought with it the right of younger sons to a share in that kingdom.

This caused bloody internal feuds amongst the descendants of Gustavus Vasa, and the kingdom thus weakened was only restored to order again by his youngest son *Charles IX* (1599–1611) — another ruler of the first rank, a new "Protecter of the Realm" of the old Sture type, and, like the Stures, preeminently a man who relied on the people. For several years before his accession to the throne he was the virtual ruler of Sweden, and at the Ecclesiastical Synod of Uppsala (1593) brought about the *definitive victory of the Reformation over Roman Catholicism*. Under his son, Gustavus Adolphus — in this respect as in so many others a pioneer of new ideas —, the division of the kingdom among the royal princes ceased: a new principle, based upon the Renascence and (indirectly) upon antiquity, laid down the indivisibility of the state, and by this means onemore great incentive to disunion was removed.

Riddarhuset (The House of the Nobility) at Stockholm. Statue of Axel Oxenstierna.

Immediately after the middle of the sixteenth century, Sweden had again embarked upon the acquisition of territory on the other side of the Baltic. As a consequence of the Reformation, the Livonian Federal States, which had been established on a Catholic foundation, fell to pieces; and from the year 1561 the adjoining countries began to contend with one another for the prize. Sweden could not permit it to fall into the hands of barbaric Russia, nor of Poland, which was under the sway of Roman Catholicism, nor into those of envious Denmark, which was ever brooding upon the restoration of the Union: hence, out of mere consideration for her own safety, Sweden was compelled to seize as large a share as possible of the Livonian heritage. A consequence of this, again, was that protracted conflict for the *mastery of the Baltic*, which carried Sweden to the summit of greatness and to the brink of destruction. The mastery of the

Baltic was a necessity for Sweden at a time when routes more frequently led over water than over land, and when it was much easier to travel from Stockholm to Riga than to Småland or Västergötland. The more immediate consequences of all these new complications begin, however, only during the next epoch — the period which commences with the accession of Gustavus II Adolphus to the throne, and ends with the death of Charles XII outside Fredrikshald.

Compared with the stirring period of the Union, the sixteenth century does not present many great and interesting personages in Sweden below the throne. Moreover, the cultural advance during this period was not so considerable as were the economic and the political. The great work of the period in the spiritual world, the reformation of the Church, did not bear its best fruit until the following century. Amongst those who achieved the work of the Reformation in Sweden, however, ought always to be remembered *Olaus Petri*, one of the noblest characters in Swedish history, and one that has been of the greatest importance for the nation, not only in things ecclesiastical, but also in the domain of literature. Sweden's two greatest naval heroes, *Jakob Bagge* and *Klas Horn*, also belonged to this period.

The outer *boundaries* of Sweden underwent two changes during this time, Esthonia being acquired in 1561, whilst, on the other hand, the island of Gottland was surrendered to Denmark in 1570.

The Period of Sweden's Political Greatness (1611—1718). In order not to break the thread of the history of Sweden, it is usual to count the beginning of this period from the accession of King Gustavus II Adolphus to the throne (1611), although it ought, of course, more correctly to be dated from his appearance on the theatre of the great European war, in 1630.

The rulers of Sweden during this seventeenth century, which was so noteworthy for the country, were: *Charles IX* (1599—1611), *Gustavus II Adolphus* (1611—32), *Axel Oxenstierna*, as the head of the regency during the minority of Queen Christina (1632—44), *Christina*, as ruling sovereign (1644—54), *Charles X Gustavus* (1654—60), the Regency during the minority of Charles XI (1660—72), *Charles XI* as ruling sovereign (1672—97), and *Charles XII* (1697—1718). The history of the world cannot often show such a series of great personalities as successive leaders of the destinies of a single nation. It is only the second Regency (1660—72) which gives an impression of insignificance; and the period of its rule marks a noticeable weakness in an otherwise brilliant picture.

The personality and fate of *Gustavus II Adolphus* and the story of Sweden during his reign belong to world-history, and they are more generally and better known than are the events of any other period in Swedish history. His appearance upon the scene of the great Continental war was quite as much a measure of self-defence on the part of the Swedish nation against the far-reaching plans of Wallenstein and the Roman Catholic princes to obtain the mastery of the Baltic and its shores, as a magnanimous assistance rendered to the German co-religionists of the Swedish people.

The victory of *Breitenfeld* (1631) at once raised Sweden to the rank of a Great Power. Her new-won position was threatened, it is true, by the death of the hero-king upon the field of Lützen (1632); but it was saved by the political genius of *Axel Oxenstierna* and the illustrious military exploits of the Swedish generals, which, even during the later phases of the war, assured for Sweden a far more important position than certain foreign writers will acknowledge. At the close of the lengthy conflict (1648), Sweden was master of the mouths of all the German rivers and of the greater part of the shores of the Baltic.

Almost simultaneously with these events, Sweden succeeded, by the Peace of Brömsebro (1645) and by that of Roskilde (1658), in acquiring the provinces of

Sweden proper (Skåne, Halland, Blekinge, Gottland, Bohuslän, Härjedalen, and Jämtland), which had hitherto belonged to Denmark or Norway. This was an immensely valuable territorial acquisition, which increased the Swedish population by almost one third and gave the country the boundaries which, under modern conditions, must be termed its only natural ones. Moreover, of all the territorial acquisitions made in its period of political greatness, these are the only provinces that Sweden still has in her possession.

In 1658 the Swedish power had reached its culmination. Even after some cessions had been made in 1660, it embraced the whole of present Sweden and Finland, and in addition Esthonia, Livonia, a part of Ingria, Hither Pomerania, Wismar, Bremen and Verden — a total area of 900 000 sq.km, with a population estimated at that time at about 3 millions of people, corresponding, at present, to about 4 times as many.

These stupendous wars, and the position of a Great Power so unexpectedly acquired, reacted powerfully upon the *internal* conditions of Sweden. The greatly augmented connections with foreign countries showed their force by exerting a strong influence upon Swedish intellectual culture, which was promoted to a high degree by the enlightened care and interest of Gustavus Adolphus, Axel Oxenstierna, and Charles XI. The position of Sweden as a military power was purchased, however, by her people at the price of heavy economic sacrifices; and the common people could only with the greatest difficulty bear the heavy burden of taxation and the continual recurrening military levies. The nobles enriched themselves to a great extent by means of the war, and continually increased their power as well as their wealth. Lordly castles, filled with foreign booty, rose in all parts of the country, and the fiefs which the nobles received in payment for their services to the country, made them masters of an ever-increasing share of the land. The *Edict of Reduction* (or Compulsion, Forfeiture), whereby the estates of the nobles so obtained reverted to the Crown, became at last an inevitable necessity, and this tremendous economic revolution, which completely broke the power of the nobility and transformed its members, in a considerable measure, into a nobility of state officials, was carried out in due legal form by Charles XI. The constitution of the *Church* was fixed at the same time; and its clergy reached the height of their ecclesiastico-political greatness during the seventeenth century.

Sweeping changes were made in the *Form of Government.* Gustavus Adolphus prepared, and Axel Oxenstierna carried out in 1634, the reform of the administration, which made national unity complete, and placed at its head a monarchical power, supported by a powerful *Council,* composed of the chief representatives of the highest noble families and forming an admirably organized ruling body based on a corporate system. The balance of power within the State was for some time disturbed, to the advantage of the nobles, by the great wealth of that class, and also through the increased influence accruing to the Council during the long regencies. But the royal power had everywhere emerged from the Thirty Years War with increased strength, and royal absolutism soon made its triumphal march through Europe; and in the long run Sweden could not remain untouched by this movement. The great extremities in which the State found itself after the wars entered upon by the feeble Regency during the youth of Charles XI, aroused a general ill-will against the Council and the nobility; and the forcible measures which were found necessary for the salvation of the country could not be carried out without a royal absolutism, which under these conditions almost assumed the character of an ancient Roman dictatorship. Indeed, about 1680, absolution was embodied in the constitution; and Charles XI devoted himself with the strictest conscientiousness to the welfare of his kingdom. — The absolutism then introduced did not, however, involve the aboli-

Bearing Home of the Dead Body of Charles XII.
From a painting by G. O. CEDERSTRÖM.

tion of the Riksdag, which underwent important developments during the seventeenth century. Still, it was never once called together by King Charles XII.

The position within the political system of Europe to which, during this time, Sweden had been raised, has been of immeasurable importance in the history of her cultural development; but this position in itself was out of all proportion to the numbers and material resources of the nation, and it was but natural, therefore, that it was of brief duration. The downfall occurred during the reign of that illustrious monarch, *Charles XII*, as a result of what is called the Great Northern War (1700—21). The titanic struggles of Charles XII — finally against the whole of northern and eastern Europe — gained for him the admiration of the world; and he was followed by his people, upon whose powers of self-sacrifice he made almost superhuman demands, with a devotion as unswerving in adversity as in success. The struggles and sufferings of Sweden and Finland during this period are, without doubt, among the most stirring incidents the history of the world has to tell. The final result of the conflict with such an enormously superior force was, of course, never doubtful; but the period of Sweden's political greatness has not therefore been in vain. The Swedish nation cannot be robbed of the imperishable glory of having saved for all mankind, at a most critical moment, the sacred cause of *liberty of conscience*.

By the treaties of peace which concluded the Great Northern War (1720 and 1721) Sweden lost her possessions east and south of the Baltic, with the exception of the northernmost part of Hither Pomerania and the town of Wismar; the south-eastern part of Finland was also forfeited. Sweden had then ruled for about 150 years in Esthonia, almost 100 years in Livonia, and about 65 years in southern Pomerania. Comparatively short though these epochs are, the

Swedish rule has nevertheless left its traces. It survived in grateful memory almost everywhere amongst the lower classes of the population, at that period so often repressed and down-trodden elsewhere. The admirably ordered Swedish administration was incontestably taken as a model by the states (Prussia and Russia) that succeeded Sweden as the possessors of the above-named countries; and the nobility of Livonia is undoubtedly indebted in the main to the political education it received from the Sweden of that time for the influential position they assumed in the history of Russia throughout the whole of the eighteenth century.

The seventeenth century marks, indeed, for Sweden a period of expansive energy unknown before. We have already mentioned her illustrious rulers and statesmen. Swedish military science at this time marked an epoch by the genius of such generals as *Gustavus Adolphus*, *Gustavus Horn*, *Banér*, *Torstensson*, and King *Charles X Gustavus;* amongst the field-marshals of Charles XII may be mentioned *Lewenhaupt*, and Sweden's last national hero, *Magnus Stenbock*, who preserved Skåne for his country. But Sweden began at that time to show great names in the sphere of culture also: we may mention *Stiernhielm*, the father of Swedish poetry, *Stiernhöök*, the great historian of law, *Rudbeck*, the famous polyhistor, and the two mechanical geniuses, *Dahlberg*, the leader of the famous march across the frozen Belts, and one of the three great European fortress-builders of the period, and *Polhem*, the precursor of the great band of Swedish inventors of later days. It is also significant of the enlightened Swedish government of the times that a number of the most illustrious men of the century in foreign lands were offered Swedish hospitality and Swedish protection, and even positions in the Swedish service. The names of *Hugo Grotius*, *Pufendorf*, *Descartes*, and *Comenius* may here be sufficient. The greatest honour for this step

Drottningholm Castle. On Lake Mälaren.

belongs, perhaps, to Axel Oxenstierna, who was probably the most enlightened and many-sided statesman of his day. But in this respect Queen *Christina* too, is worthy of a gratitude which her administration in other matters certainly does not deserve.

The Period of the Predominance of the Riksdag (1718—72). The death of Charles XII gave the signal for a fundamental change in the form of the Swedish government. The terror caused by the misuse of royal autocracy during the period of the great war was so general and so deep-rooted that Sweden abruptly rushed into the opposite extreme, becoming subject to a Riksdag which possessed itself, not only of all legislative power, but also of a great part of the executive.

In the section of this work which treats of the history of the Swedish Constitution, a more detailed account is given of the form of government during this period. Here, we but mention that the Riksdag still consisted, as it had done for many hundred years previously, of four Estates: the Nobility, the Clergy, the Burghers, and the Peasantry. Of these, the Nobility, especially the numerous class of the Lesser Nobility, now acquired the greatest influence. By degrees, the greater part of the power of the Riksdag came into the hands of a delegation of the members, called the Secret Committee, on which only the three first Estates were represented.

During the period in question the royal power was a perfect shadow, and the monarchs themselves (Frederick I and Adolphus Frederick) personally inspired but little respect. As a matter of fact, Sweden was, during this half century, a *republic* ruled by an oligarchy — a peculiar phenomenon at a time when in all the states of continental Europe, almost without exception, the strictest monarchical absolutism held sway.

There is no doubt but that the government of Sweden, during this so-called "Period of Liberty", suffered from essential defects, of which the most fatal was the general corruption which prevailed towards the close of the period, recalling the state of things which had existed a little earlier in England under the government of Walpole; but this was all the more dangerous in Sweden, as it was to a great extent brought about by foreign Powers for the promotion of their own interests. But, on the other hand, Sweden had here the opportunity of learning its earliest lessons in the school of modern parliamentarism, and earlier than any other European nation with the exception of the British. And if in our own days the Swedish form of government has attained to a high degree of constitutional maturity, this is due, in no small degree, to the experience — both for good and evil — gained during this period, which is not infrequently judged by Swedish historians with unjust severity.

Thus, if Sweden, during this time, made important progress in its *political* development, the greatest merit of the period is the revival it brought in the *economic* and *scientific* spheres. Excluded from its former influence on the military and the diplomatic destinies of Europe, the Swedish nation flung itself with youthful enthusiasm into the pursuits of peace. The name that is here the most illustrious is that of *Linnæus*, surrounded by those of his numerous pupils, *Thunberg*, *Kalm*, *Forskål* and many others; but Sweden at that period also produced chemists, such as *Scheele* and *Bergman;* physicists, such as *Celsius;* and the universal genius, *Swedenborg*. At this time also lived the astronomer *Wargentin*, the celebrated founder of the science of population statistics in Sweden. Contemporaneously, *Alströmer* was blazoning his name on the annals of Sweden as the creator of Swedish industrialism. The period was also rendered illustrious in the domain of letters, modern Swedish as a literary language being inaugurated at this time by *Dalin*, and modern Swedish poetry by *Creutz* and *Bellman*.

The form of *government* in this period appears to most advantage at its commencement, that is, as long as the leadership was in the hands of that shrewd statesman, *Arvid Horn*. The dark side of the picture showed itself more and more towards the end, especially the corruption spoken of, which, to all appearance, even jeoparded the very safety of the country. With surprising ease, and without shedding a drop of blood, *Gustavus III* (1771—92), the very year after his accession, by a *coup d'état* abolished the form of government previously existing, and substituted for it the Constitution of 1772. This introduces the period called in Swedish history.

The Gustavian Period (1772—1809). The royal power now became considerably extended, yet without becoming autocratic. The country was weary of party strife, and attached itself with confidence to the King, who had imbibed the doctrines of the age respecting enlightened despotism, and governed well for some time in accordance with the spirit of those doctrines. Gustavus III had an artist's nature, with its merits and its faults; he had a sincere love of his country and endeavoured to make it great once more; but he had neither sufficient tenacity nor ability to administer financial matters. He surrounded himself with a brilliant circle of poets and artists, an inheritance, for the most part, from the literary florescence of the preceding period: we may name *Kellgren, Thorild, Leopold, Anna Maria Lenngren;* preeminent amongst the artists of the period was *Sergel*, the predecessor of Thorwaldsen. At this time, too, Sweden made a contribution to the domain of philanthropy which must not be forgotten. Influenced by Swedenborg, *Wadström*, a Swede, was the first person in Europe to lift up his voice on behalf of the abolition of negro-slavery, being thus a precursor of Wilberforce, and, as such, much esteemed both in England and in France, in which latter country he received the distinction of honorary citizenship.

But the King soon wearied of his work of reform, and involved himself and his land in economical difficulties. He knew of no other means to save himself from the growing opposition except a war with Russia: this war, however, was carried on with honour, and made the position of Sweden secure against that powerful neighbour. He could break down the opposition of the irritated nobility only by means of a new *coup d'état* in 1789, which came near re-establishing autocracy. Three years later he fell victim to an assassin, goaded by the implacable bitterness excited, especially amongst the nobility, by his political high-handedness.

The royal autocracy, however, was inherited by his son, *Gustavus IV Adolphus* (1792—1809), one of the most ill-fated sovereigns who ever had the guidance of the destinies of Sweden. He was undoubtedly fully imbued with the most honourable intentions, but his limited mental powers rendered him at last impossible as a king. His fanatical hatred of the universal conqueror, Napoleon, whom he believed himself called upon to overthrow, caused the latter to incite the enmity of Russia towards Sweden; and the war of 1808—09 brought about the *loss of Finland*, a country which had so long faithfully shared the fortunes of Sweden, and, thanks to her solicitude, had also gained a share in the culture of western Europe. In order to save the kingdom from ruin, the deposition of the king, by means of a *military revolution*, became necessary (1809). A Riksdag was called together to draw up a new constitution, and the result of its deliberations is the constitution now in force.

Recent Times (1809 to the present day). The history of Sweden during the last century will be so often treated from different points of view, in the following sections of this book, that we can here confine ourselves to some few general observations.

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Out of the Revolution evolved the still-existing Constitution of 1809, which has given Sweden over a hundred years of internal and external peace, with a great material and intellectual development, under the protection of a constitutional form of government. The Kings of Sweden during the time have been *Charles XIII* (1809—18), *Charles XIV John* (1818—44) — the first of the line of Bernadottes to ascend the throne — *Oscar I* (1844—59), *Charles XV* (1859—72), *Oscar II* (1872—1907) and **Gustavus V** (since 1907).

The first years after 1809 brought with them notable events in the sphere of *foreign* politics, viz. the participation of Sweden in the war of liberation against Napoleon (1813) — in which Sweden, thanks to the personal qualities of Charles John, the heir-apparent, played a highly important part — and the union with Norway (1814). In compensation for the loss of Finland Sweden had, while helping in the struggle against Napoleon, obtained the promise of a union with Norway; and Charles John had compelled the consent of Denmark by force of arms. Norway, however, did not regard herself as bound by this arrangement, but at Eidswold in 1814 adopted a very democratic constitution and chose the Danish stadholder and heir-apparent Christian Frederick as king on 17 May. The latter however, could not hold out against Charles John; but abdicated the throne by the convention of Moss, 14 August 1814, after which the Norwegian representative assembly or Storthing assented to recognize the union and on 4 November chose Charles XIII as king.

On the conclusion of peace with Denmark, Sweden handed over to that country, in compensation for Norway, its last possession on the other side of the Baltic — the northern part of Hither Pomerania. Since that time the two nations inhabiting the Scandinavian peninsula, sheltered by the encompassing seas from sudden invasion, have pursued a strictly defensive and peaceful policy, and not unnecessarily interfering in the affairs of Europe.

For some decades the *Scandinavian Movement* appeared in great strength, expressing itself in an endeavour to unite more closely the three Scandinavian peoples, Swedes, Norwegians, and Danes, at first in a political sense, but afterwards in cultural and economic respects. The results gained are chiefly in the sphere of jurisprudence, where, in many important respects, the three nations have approached each other, in some cases to the extent of identical legislation. The influence of the Scandinavian Movement upon literature, science, and art, has also been of great importance.

As regards the *internal politics* of Sweden during this period, we may notice the important change in the composition of the Riksdag, in 1865, by the abolition of the Four Estates, and their replacement by two chambers, in accordance with modern parliamentary forms — yet one more of those revolutions *carried out under legal forms*, in which the history of Sweden abounds. This change was completed in 1909, just one hundred years after the establishment of a constitutional form of government, by the introduction of universal suffrage for the Second Chamber and proportional representation for both Chambers.

The ensuing period has been marked chiefly by political controversies waged around the question of Sweden's defences; in 1901 the Army and Navy were reorganized on the basis of universal conscription; but the necessity of still stronger defences having made itself poignantly felt, the Riksdag in September 1914, ultimately agreed upon a thorough-going defence programme.

The Swedo-Norwegian Union never fulfilled the expectations formed by its framers. The defects of the treaty of union might have been remedied with a spice of good will; but this was frustrated by Norway's constant mistrust of Sweden and ears off her schemes for supremacy. The efforts made on the part of Sweden to maintain the union in spite of constant rubs, — which could not fail to evoke dissatisfaction with the union also among the Swedish people — were

naturally directed in the first place to the momentous question of a combined plan of *Scandinavian defence*. Swedish proposals for the strengthening of the union and the amendment of its terms, however, were persistently spurned by the Norwegians. At length the conflict came to a climax on the question of parity in the conduct of foreign affairs, owing to the Norwegian demand for their own minister of foreign affairs, their own envoys, their own consuls, in foreign countries. All conciliatory proposals on the part of Sweden fell through owing to the obstinate resistance of the Norwegians, who showed themselves more and more clearly to be aiming at the dissolution of the union. This was initiated in revolutionary fashion when the King's Norwegian ministry renounced their allegiance to him on 7 June 1905. To avoid the shedding of blood the aged king proposed that negotiations should be opened (at Karlstad); and the result of these was that the Norwegians found themselves compelled to clothe the dissolution of the union in more legal forms, after which it was confirmed by the Swedish Riksdag in conformity with conditions laid down by Sweden. These stipulations comprised an arbitration treaty and the establishment of a neutral boundary zone with the obligation on the part of Norway to raze the Norwegian fortifications recently erected within the same. The deep feeling of animosity produced in the Swedish people by the manner in which the Norwegians set about the dissolution of the union has since been converted into a powerful national movement; and the years that have elapsed since the breach of the union have been more and more marked by an increased stir throughout the most widely different spheres of both spiritual and material life.

Return to Stockholm of the Vega Expedition. April 24, 1880.

In other respects, the most important events of the period are to be found in the *economical, social,* and *scientific* domains. The important developments brought about during the century in these respects, are the subjects treated of in the greater part of the present work. Here we need but mention the great spread of prosperity, the rise of many new branches of industry, the astonishing perfection to which the means of communication have been brought, the great work of popular education, and the splendid growth of purely cultural interests,

in which sphere Swedish scientists and explorers have obtained world-wide renown. Moreover Sweden, like the two other northern nations, has during the last two or three generations, entered into far more intimate connection with foreign countries than was possible with the imperfect means of communication of olden times. New ideas and movements reach the shores of Sweden as quickly as those of any other nation; and it not seldom happens, indeed, that it is from the North that the new ideas emanate. Whilst fully recognizing that in Sweden, as elsewhere, there are dark spots, calling for serious reform and regenerative work, the Swedish people of the present day may yet venture to hope that the future — especially if Sweden is spared from being involved in the world war — will bring their country such flourishing economic, spiritual, and intellectual conditions that the whole of their preceding history may be considered as but a time of preparation and of training for the years to come.

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2. DEMOGRAPHY.

The nation which inhabits and, from what has been shown in the preceding pages, has probably for at least six thousand years uninterruptedly possessed the land of Sweden belongs to the *Germanic* branch of the *Aryan* family, and to the particular division of that branch which comprise the *Scandinavian* nations. The last-named peoples, (who are so nearly related to each other, that they mutually understand each other's languages tolerably well), embrace, on the whole, a total of over 13 million souls; of these, about $2^1/_2$ millions are settled in the United States of North America, more than $^1/_3$ million live in Finland, which formerly belonged to Sweden, and $^1/_5$ million nearly, in North Schleswig, once belonging to Denmark. The remainder, about $10^1/_2$ millions of people, inhabit the three Scandinavian kingdoms of Northern Europe, Sweden, Norway, and Denmark; of which countries, Sweden possesses somewhat more than $5^1/_2$ million inhab., Norway close upon $2^1/_2$, and Denmark somewhat more than $2^1/_2$ millions. Besides these, somewhere about one hundred thousand live on the distant island of Färoe and Iceland, belonging to Denmark.

The total population of Sweden must, at present, amount to over 7 *millions* of souls, if we include about $1^1/_2$ million Swedes in America, which is probably not too much; of this latter number, however, a great proportion will doubtlessly soon have exchanged the Swedish language for English. Of the Swedes in Europe, about 350 000 live in Finland, and somewhat more than 100 000 in other European countries (of this number, there are about 40 000 in Norway, and in Denmark rather less); the remainder, somewhat more than $5^1/_2$ million people, inhabit the kingdom of Sweden. As, besides the people of the Swedish race, Sweden possesses only about 25 000 Finnish inhabitants, about 7 000 Lapps, and perhaps about 40 000 persons of other nations, it can with reason be said to rejoice in a rare degree of *ethnographical homogeneity*.

The Swedish language has developed as an individual language out of the speech that was common to Scandinavia about a thousand years ago. The first period in the history of the language is generally termed the *Runic period* (till about 1200); the Swedish of that time is known merely through runic inscriptions, which, as a rule, are rather stereotyped. The period of early, or *Classic Old Swedish* comprises the period 1200—1350; during that time, the language is, on the whole, free from foreign admixture, and the written language shows a freedom from constraint testifying to its having only sligtly differed from the spoken language. The literature consists almost exclusively of law texts. During the period of *Later Old Swedish* (1350—1500), the written language developed more independently of the spoken one, on the basis of the dialect of Östergötland (notice the Folkung dynasty and Vadstena cloister), but, at the same time, under the strong influence of Latin, the language of the church, and of Middle Low German (through the German burghers in the towns). Towards the end of this period, Central Sweden regained its political importance, which is to be traced also in the development of the written language; of special importance in that respect was the foundation of Uppsala university. — With the sixteenth century begins *Early Modern Swedish* (1500—1730), which, to a great extent, is developed by the translation of the Bible by the reformers; as a result of this an influence from High German replaced that from Low German. Standard Swedish was clearly marked and more and more firmly established, though during both the sixteenth and seventeenth centuries dialectic peculiarities are often perceptible. An increased intercourse with the culture of Europe in general brought with it a considerable foreign influence, first of German, then of French; towards the end of the period is to be noted the influence of the commencing scientific study of Old Scandinavian. With the Code of Laws of 1734 and the appearance of *O. von Dalin,* the transition to the present standard language is completed; we arrive at *Later Modern Swedish,* which has not undergone any remarkable external changes since then. During the nineteenth century, *Tegnér, Wallin* and *Strindberg* seem to have exercised the most powerful influence on the idiom of the language; the recent decades have shown an unmistakeable tendency toward lessen the gap between the spoken and the written language by allowing the latter greater liberty.

The most typical characteristics of the Swedish language, compared with its nearest relations, are the contraction of the old diphthongs, a profusion of unaccented vowel terminations, and a very peculiar accentuation, which to a certain extent is to be found also in Norwegian, but in hardly any other European language. As a general estimate it may be maintained that Swedish is distinguished by force and clearness, sonorousness and variety.

Modern **dialectical** research divides Sweden into four dialect-regions: *a) Swedish* in a strict sense, with its centre in Uppland and the valleys of Lake Mälaren. To this group belongs the common speech of Norrland, especially along the bays of the Gulf of Bothnia, and the *East Swedish* speech in Finland and Russia, north and south of the Gulf of Finland. The dialects of the districts which border on the Norwegian frontier more or less resemble the common speech of Norway. This holds good to a less extent for Värmland and Dalarne, than for the districts of Bohuslän, Härjedalen and Jämtland (Norwegian in former days); *b) Gothic,* in North and Middle Götaland, round the Lakes Vättern and Vänern; *c) South Swedish,* comprising the greater part of Småland, with the addition of Skåne, Halland and Blekinge. The speech here betrays very many Danish features on account of earlier political and cultural conditions; and *d)* The *Gottland* dialect (gutnisk) on the island of that name.

A triple division can be made, from a **demographical** point of view, into districts somewhat sharply divided from each other, viz. *a)* the *Eastern* part of South

Sweden, distinguished by numerous and early marriages, but accompanied, none the less, by low matrimonial fecundity and a great number of illegitimate births, a high death-rate in general, a great frequency of suicides, and finally by a low surplus of births, but with inconsiderable emigration; *b)* the *Western* part of South Sweden, characterized by the paucity and lateness of marriages, but not the less by great matrimonial fecundity and a low number of illegitimate births, moderate or small death-rate, a low frequency, in general, of suicides, and usually a high surplus of births, but with great emigration; and, finally, *c) North Sweden*, distinguished by moderate frequency of marriages, in general, by very great fecundity and a low number of illegitimate births, for the most part, by a low death-rate and a very great surplus of births, and by inconsiderable emigration.

During the last few decades, these distinctions have, however, become weakened to some extent, and the characterization given above must, at the present moment, own to several exceptions. Emigration, especially from the North of Sweden, has been fairly considerable.

Of the **foreign element** mentioned above, the Lapps and the Finns are in certain places of no small importance, namely, in the North of Sweden (in the län of Norrbotten and the Lapp territory of the län of Västerbotten).

First, as regards the **Lapps**, they have dwelt in Lappland from the most ancient times, and, in smaller numbers, in the län of Jämtland, too. It is absolutely wrong to mark, as the German ethnographical charts nearly always do, the whole of the inland part of North Sweden, as far down as to 62° N Lat., as being inhabited by Lapps. Of the 120 000 inhabitants of the län of Jämtland, the Lapps number only about 900, and even in Lappland this people is in such a decided minority that only a single parish is found there in which the Lapp race forms more than one-half of the population: this parish is the most northerly one in the whole of Sweden (Karesuando). In Lappland as a whole, the Lapps do not amount to even one-tenth of the population.

The Lapps, who belong to the so-called "Finno-Ugric" branch of the Mongol race, are still partly nomadic (though decreasingly so) and ethnographically constitute a rather remarkable people: a point of view, however, which it does not concern the object of this work to go into. To adjust the conflicting interests between Lapps and Swedish settlers, and to prevent the suppression of the former with the advance of a higher civilization, has been a by no means easy task for Swedish legislation, without whose humane spirit the little Lapp contingent would long before this have certainly vanished from Sweden.

The 25 000 **Finns** are found to form by far the most part in the län of Norrbotten, where, especially in the valley of Torneå, they form a compact whole. According to the view of many investigators, this people is, as a matter of fact, chiefly of Swedish origin, although, during the course of centuries, it has been gained over to the Finnish language (mainly through the lack of insight of the Swedish authorities into the import of the matter). At present the Swedish tongue is spreading noticeably among the Finnish districts, by means of improved communications with those of the Swedes — particularly railways — and by means of the extensive mining operations, through which more especially Gällivare, a parish previously Finnish, has been regained for Swedish civilization. In our own days the State works for the spreading of the Swedish tongue, by a liberal support of public education in these parts. Among the Finnish-speaking element, there prevails a general wish to participate in the advantage that accrues from a knowledge of the predominating language of the country.

To the mining-districts of Central Sweden there was, in the sixteenth and seventeenth centuries, a not unimportant immigration of Finns, who have, however, now quite coalesced with the Swedish population. The same state of things holds for the colony of *Walloons* brought in, during the seventeenth century, to the iron-works round Dannemora.

Population of different läns.

From an historical point of view, Sweden is divided into 25 provinces, the names and boundaries of which are indicated on the map, p. 3. But, from an administrative point of view, the division is into 25 districts, called läns, cf. map, p. 108. The areas of the läns and their populations at the end of 1751, 1865, 1913 are given in Table 8.

TABLE 8. *Area and Population of the Läns.*

Läns	Area Sq.km[4]	Population at the end of the years			In % of the entire population			Inh. per sq.km
		1751[1]	1865[2]	1913	1751	1865	1913	1913
Stockholm city . .	113	61 040	133 361	382 085	3·39	3·24	6·78	3 381
Stockholm län . . .	7 763	91 399	128 458	222 046	5·07	3·12	3·94	29
Uppsala	5 313	63 895	96 766	130 404	3·54	2·35	2·31	25
Södermanland . . .	6 811	79 817	133 900	182 180	4·43	3·25	3·23	27
Östergötland	11 046	128 911	253 148	298 242	7·15	6·15	5·29	27
Jönköping	11 522	106 317	183 851	216 697	5·90	4·47	3·84	19
Kronoberg	9 910	67 283	162 553	157 260	3·73	3·95	2·79	16
Kalmar	11 543	96 053	233 165	228 044	5.33	5·67	4·04	20
Gottland	3 160	24 562	53 165	55 422	1·36	1·29	0·98	18
Blekinge	3 015	47 000	125 436	150 049	2·61	3·05	2·66	50
Kristianstad	6 456	90 335	222 235	232 734	5·01	5·40	4·13	36
Malmöhus	4 833	105 163	305 261	469 377	5·83	7·42	8·32	97
Halland	4 921	58 234	126 060	146 771	3·23	3·06	2·60	30
Göteborg och Bohus	5 047	76 537	232 181	395 471	4·25	5·64	7·01	78
Älvsborg	12 729	115 853	279 153	291 330	6·43	6·79	5·17	23
Skaraborg	8 480	97 918	236 775	240 667	5·43	5·76	4·27	28
Värmland	19 324	100 917	259 612	260 034	5·60	6·31	4·61	13
Örebro	9 134	73 000	162 717	210 666	4·05	3·96	3·74	23
Västmanland	6 708	71 952	108 859	159 522	3·99	2·65	2·83	24
Kopparberg	29 870	97 428	174 758	239 025	5·41	4·25	4·24	8
Gävleborg	19 728	56 000	143 793	257 514	3·11	3·50	4·57	13
Västernorrland . . .	25 533	36 890	127 524	256 666	2·05	3·10	4·55	10
Jämtland	51 556	19 000	68 071	121 400	1·05	1·65	2·15	2
Västerbotten	58 934	18 369	88 763	166 107	1·02	2·16	2·95	3
Norrbotten	105 520	18 500	74 576	168 870	1·03	1·81	3·00	2
The great lakes[3] . .	9 122	—	—	—	—	—	—	—
Total	448 091	1 802 373	4 114 141	5 638 583	100	100	100	13

[1] Approximating to the present division, and with rough emendations for Stockholm and Blekinge. — According to more recent calculations by *G. Sundbärg* (ses Report on Emigration, supplement 4, table 39) the population in 1751 may be assumed at 1 802 132, of which about 16 200 should be assigned to the län of Norrbotten, excluding the portion ceded in 1809 to Russia. — [2] At the time when the increased emigration began. — [3] In central Sweden, viz. Lakes Vänern, Vättern, Mälaren, and Hjälmaren. — [4] Figures supplied by the Central Bureau of Statistics. Some slight differences from the figures in Table 1, Part I, supplied by the Ordnance Survey (owing to different methods of calculation employd) are of no significance.

Administrative division into läns.

1913.

There are 25 läns (the city of Stockholm included). For their area and population vide Table 8.

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TABLE 9. *Population of Sweden at different Times.*[1]

At the end of the years	Population	Annual increase		At the end of the years	Population	Annual increase	
		Total	‰			Total	‰
1570	900 000	.	.	1755	1 875 000	15 000	9·43
1650	1 225 000	4 063	3·86	1815	2 465 000	9 833	4·57
1700	1 485 000	5 200	3·86	1865	4 114 141	32 982	10·30
1720	1 350 000	—6 750	—4·75	1913	5 638 583	31 759	6·59

On an average a Swedish län covers over 18 000 sq.km (the five most northerly läns, on an average, above 52 000; the remainder only about 9 000 sq. km). The largest län, Norrbotten, covers not less than 105 000 sq. km, i. e., nearly 1/4 of the entire country, and considerably more than any one of the countries of Scotland, Ireland, or Portugal. The five northernmost läns, Norrbotten, Västerbotten, Västernorrland, Jämtland, and Gävleborg, or the district which in daily parlance is comprehended under the term Norrland, cover 261 231 sq. km, or a good deal more than half of Sweden.

The most populous län in Sweden is Malmöhus, which contains above 450 000 inhab. Next comes the län of Göteborg och Bohus, with nearly 400 000, and the city of Stockholm with more than 380 000 inhab. Gottland with 55 000 is the only län with less than 100 000 inhab. The population of Skåne amounts to 702 000 souls. The remainder of Götaland contains 2 180 000 inh., Svealand 1 786 000 and Norrland 970 000. In Lappland alone the population amounts to only about 88 000.

Population at different periods.

The population of Sweden at some characteristic periods during the course of the last few centuries, is seen from Table 9, and in Table 10 the rates of births and deaths are also given from the year 1700 onwards; a series of details quite unique of their kind.

TABLE 10. *Movement of Population in Sweden 1701—1910.*[2]

Annually	Mean population	Yearly per million of the mean population					
		Marriages	Births (living)	Deaths[3]	Surplus of births	Emigration[4]	Increase
1701—50	1 537 000	.	34 250	30 400	3 850	.	3 850
1751—75	1 925 473	8 684	34 440	28 920	5 520	290	5 230
1776—00	2 183 696	8 369	33 120	26 587	6 533	290	6 243
1801—25	2 482 582	8 595	32 944	26 477	6 467	210	6 257
1826—50	3 094 886	7 310	31 629	22 268	9 361	90	9 271
1851—75	3 943 423	7 041	31 753	20 317	11 436	2 256	9 180
1876—00	4 742 048	6 191	28 502	16 949	11 553	5 200	6 353
1901—10	5 310 120	5 997	25 766	14 880	10 886	3 623	7 263

[1] Within the present boundaries of the kingdom. The figures for 1570 and 1650 are little more than conjectures.

[2] For 1701—50 mainly based on approximate calculations. — [3] For 1751—1815 with roughly calculated additions for those fallen in war, usually not included in official reports. — [4] Net emigration. Before 1850 based on a rough estimate; for 1851—84 with approximate corrections.

To follow the changes of the population of Sweden is on the whole to follow the history of its people. This wide subject can only be lightly touched upon here.

It was generally believed in former days that, during the early Middle Ages (before the Black Death at the middle of the 14th century), Sweden possessed a population of many millions, but this view has now been abandoned. According to the figures given in the table, Sweden had, in 1570, a population of about 900 000 within the present boundaries. The 17th century, so full of glory and suffering for Sweden, seems, in spite of the almost constant succession of wars, to have brought with it no inconsiderable increase of population, so that, at the close of that century, Sweden probably possessed, within its present boundaries, a population of close upon $1^1/_2$ millions.

During the first two decades of the 18th century, very great loss was caused to the nation by the "Great Northern War". The restoration of peace was followed by a generation (1721—55) of quieter times, during which the people gathered fresh strength and made considerable progress, both economic and intellectual in its scope (Linné and his pupils, etc.). During this period, the population of Sweden increased by nearly 10 ‰ annually, a rate of increase which, at that time, could hardly have been equalled in many countries of Europe. At the close of 1767, Sweden completed its second million of population.

Less gratifying is the history of the people during the sixty years between 1757 and 1813, distinguished by new losses and sufferings of many different kinds, which did not fail to leave their mark in a lowered rate of increase in the population. Finally, in 1809, Finland, the ancient daughter of Sweden, was lost; five years later the union with Norway was effected, and we reach the beginning of "recent times".

The century of unbroken peace, with which the nation has since been blessed, commenced with a period of fifty years, 1815—66, during which the population increased more quickly than was the case either before or after. It was the last epoch of the old, and more patriarchal industrial system, which had hitherto flourished in Sweden. During the decades which have passed since then, the country has been drawn within the sphere of modern industrial concentration and international competition, and this under conditions which have been rather unfavourable to the people in many respects. It cannot surprise us, then, that this period of transition brought with it economic difficulties, expressing themselves among other ways in rapid emigration, which consequently lowered the rate of increase of population. Since that, it is true, industrial life has developed, but not adequately enough to maintain a normal rate of increase of population. Still the increase has proceeded faster in the most recent times than a generation back. The population, which in 1835 amounted to 3 millions, and in 1863 to fully 4 millions, at the close of 1897 exceeded 5 millions, and at the present moment exceeds 5·6 millions.

TABLE 11. *Increase of Population in Europe and Sweden.*

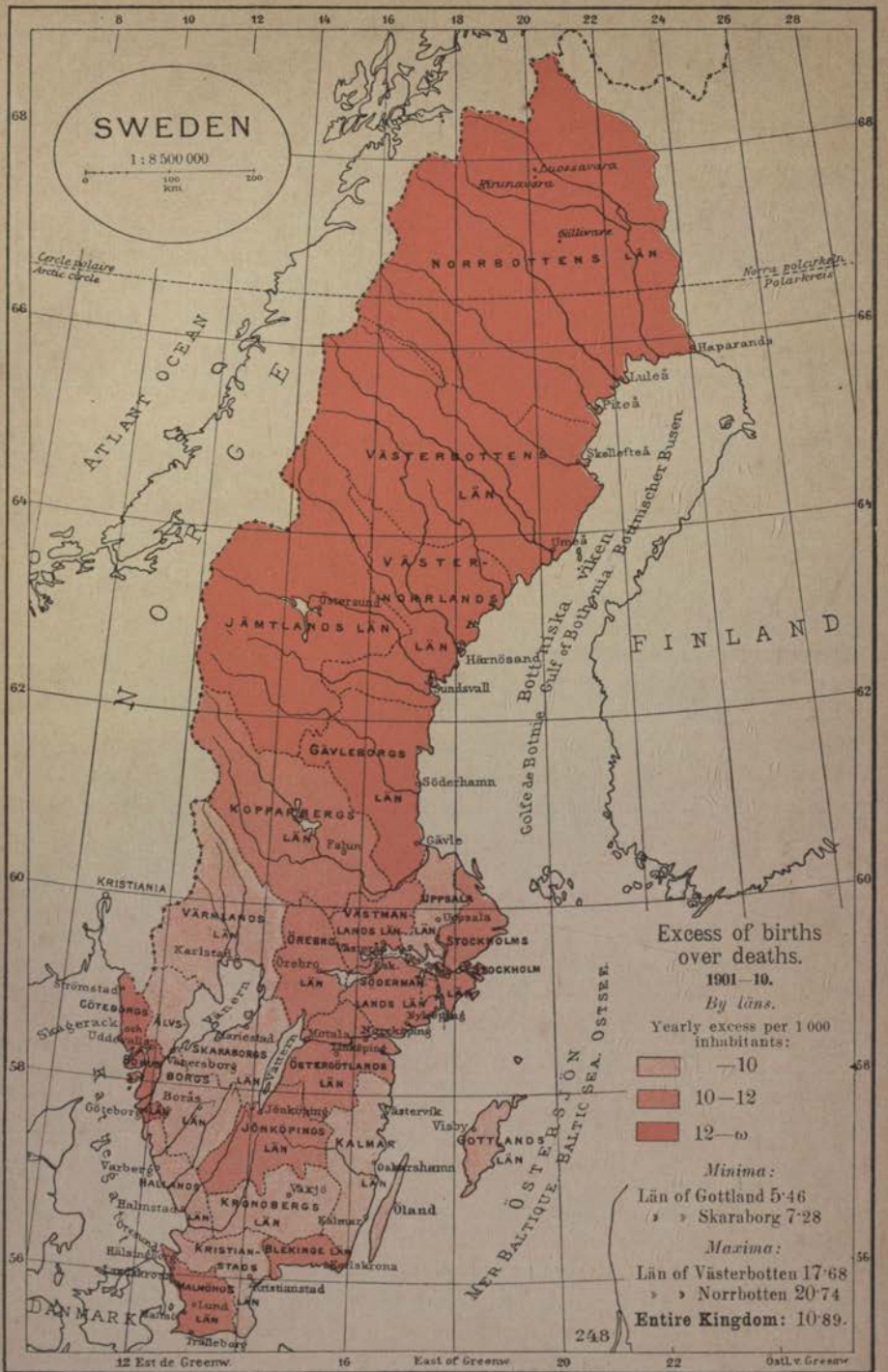
At the end of the year	Population		Sweden ‰	Annually	Annual increase ‰	
	Europe	Sweden			Europe	Sweden
1800	187 693 000	2 347 303	12·51	1801—20	6·29	4·83
1820	212 768 000	2 584 690	12·15	1821—40	8·29	9·76
1840	250 972 000	3 138 887	12·51	1841—60	6·00	10·39
1860	282 893 000	3 859 728	13·64	1861—80	8·00	8·42
1880	331 745 000	4 565 668	13·76	1881—00	9·47	5·91
1900	400 577 000	5 136 441	12·82	1901—10	11·09	7·27
1910[1]	447 299 000	5 522 403	12·35			

To be able properly to appreciate the rate of increase of the population of Sweden, it should be compared with the figures presented by the entire continent of Europe during the same period. Such a comparison is only possible, however, for about a century; the result is shown in Table 11.

Thus, at the beginning of the nineteenth century, the population of Sweden amounted to 12·50 ‰ of that of the whole of Europe, while, at end of the century, the proportion was 12·82 ‰. Consequently, in spite of immense emigration, the Swedes have quite succeeded in maintaining their position during the century considered as a whole. The rate of increase for Europe has been, on an average 7·61 ‰ yearly during the whole century, and for Sweden 7·86 ‰. During the first decade of the 20th century, the comparison does not favour Sweden to the same extent.

A general idea of the increase of population in **the different läns** can be gained by reference to Table 8. By this table are shown the conditions both before and since 1865, i. e., before and since the beginning of the great emigration. It should be pointed out that, in former times, the increase of population in the different parts of the country varied far less than is the case now. The towns were still unimportant, communications imperfect, the difficulties of passing from one trade to another more insurmountable, while emigration was almost unknown. The consequence of this was, on the whole, that the population of each district increased by means of its own excess of births over deaths. In our own days this is all much changed. The very pronounced irregularity in the increase of the population is due to disparities in the intensity of emigration, and the immense increase of the migration between places within the country. In many of the purely agricultural districts of Southern Sweden, the population is even on the decline; nay, of the 1 621 rural parishes in Götaland, no less than 1 170 had a smaller population in 1910 than in 1870. The eighties, especially, were a time of decline for certain districts of Götaland. Proportionately greater was the growth of population in the northern parts of the country — "the America of Sweden". In 1751, Norrland contained only 8·26 % of the population of Sweden; in 1865 the proportion had risen to 12·22 %, while in 1912 it had reached 17·19 %. — The *annual average increase* in the population of the different parts of Sweden has been, in ‰:

[1] Figures for Europe reached by approximate calculation.



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Annually	Svealand	Götaland	Norrland	The Whole Kingdom
1752—1815	3·33 ‰	5·24 ‰	8·59 ‰	4·90 ‰
1816—1865	8·34 »	10·71 »	13·50 »	10·30 »
1866—1880	7·65 »	4·83 »	15·03 »	6·96 »
1881—1890	7·40 »	0·06 »	16·94 »	4·70 »
1891—1900	8·90 »	3·82 »	14·66 »	7·11 »
1901—1910	9·42 »	5·29 »	9·43 »	7·27 »

Excess of Births. Even if the actual rate of increase of population in Sweden declined at times in consequence of emigration, the excess of births over deaths has greatly increased in comparison with earlier times. At present, however, it can be regarded as about stationary. The absolute and relative figures for the last two centuries are as follows:

Annually	Mean population	Births (living)	Deaths[1]	Excess of births	Ditto per 1 000 inh.	Births to a hundred deaths
1701—50	1 537 000	52 620	46 720	5 900	3·85	113
1751—00	2 054 585	69 319	56 871	12 448	6·06	122
1801—25	2 482 582	81 787	65 732	16 055	6·47	124
1826—50	3 094 886	98 057	68 918	29 139	9·36	142
1851—75	3 943 423	125 217	80 117	45 100	11·44	156
1876—00	4 742 048	135 162	80 374	54 788	11·55	168
1901—10	5 310 120	136 841	79 053	57 788	10·89	173

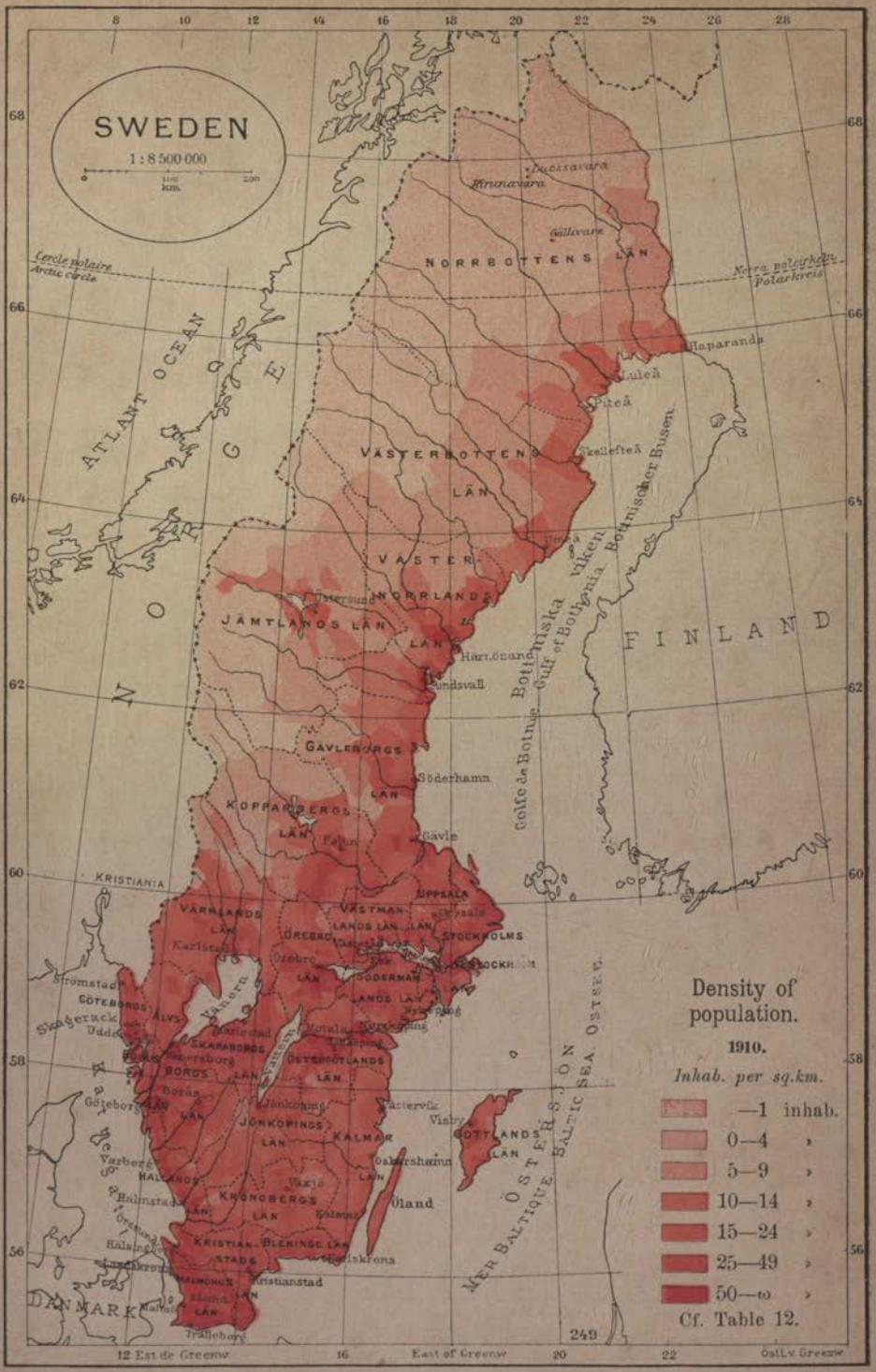
At present, then, as a general rule, the annual excess of births over deaths amounts in Sweden to between 10 and 11 ‰ *of the whole population.* The average for the whole of Europe is very nearly the same. On the other hand the position of Sweden becomes far more favourable if the number of births is given *proportionately* to the number of deaths. For every hundred deaths there are in Sweden about 173 children born alive — a condition of things which is surpassed by very few countries in Europe (for instance Norway, where the figures are 194, and Denmark, where in recent years the figures have advanced to 196). The average for the whole of Europe is about 155 births to one hundred deaths.

On the whole, the proportion just given — that of the number of births to the number of deaths — is one of the most important facts presented by vital statistics. A most extraordinary proof of sound vitality is presented by the population in the northernmost läns. There the number of living births regularly exceeds double that of the deaths. As concerns the län of Västerbotten, the same holds good if the comparison embraces the births and deaths for a whole century.

Density of population.

Though covering an area of 45 millions of hectares, Sweden has but a little more than 5 ½ million inhabitants. There are thus only 12·5 persons to every sq. km. on an average, (or if reckoned by area of land alone, 13·5). This is a very low figure when compared with the average for Europe (46 inh. per sq. km), and still more so when compared with

[1] With approximate additions for deaths in war.



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that for Western Europe alone (68 inh. per sq. km). Of all the countries of Europe, only Norway and Finland are less densely populated than Sweden.

The case is quite different if we consider the northerly situation of our country. It must be remembered that Sweden lies as far north as Alaska. As a matter of fact, there exists nowhere in the world, at such high latitudes, so relatively dense a population as is found in the Scandinavian peninsula.

It is clear that Sweden, with a length from north to south of 1 600 km, or almost one-sixt of the distance from the pole to the equator. must present most striking deviations from the average figures for the whole country when we come to consider particular districts. Table 8 gives the relative figures with respect to this for the different *läns:* the map on page 114 shows differences of the figures in every *commune.*

This map gives seven different gradations of density in population, namely: less than 1 inhab. per sq. km of land; 1—4; 5—9; 10—14; 15—24; 25—49, and finally, 50 persons and over (all per sq. km).[1]

The most thinly populated district extends in a broad belt from the angle between the Norwegian and Finnish frontiers, along the former as far as Jämtland. After being almost entirely severed in the neighbourhood of the Jämtland railway, this belt begins to widen again, enclosing the greater part of the ancient province of Härjedalen, and the northernmost angle of Dalarne, and then juts, albeit slightly, into Svealand.

Eastward of this district comes the second in order, including those communes whose density of population is 1—4 per sq. km. This region includes the greater part of the country bordering on Finland, and extends, further, in a rather broad belt, through the whole of Norrland into Dalarne; a few parishes in Värmland also belong to this zone.

The third zone, with a density of 5—9 inhabitants per sq. km, is more broken and dispersed than the two first mentioned. To this zone in general belong the coastal districts of Upper Norrland; at times, however, interrupted by more closely populated tracts. In the interior of the läns of Gävleborg and Kopparberg, this zone extends over quite considerable areas. For the rest, scattered parishes are encountered with the same density of population further south, in the woodlands of Kolmården and Tiveden, in Dalsland and Småland, and on Gottland.

The fourth degree of density, 10—14 souls per sq. km, will correspond to the actual average for the whole kingdom. This density is met with as far north as Norrbotten, in a few parishes on the coast, and likewise in a few parishes in Västerbotten; it is then encountered more frequently in Ångermanland, but even there is interrupted by districts of still denser population. The degree of density in question occurs in a large number of communes in Svealand, Dalsland, Småland, and on Gottland.

The fifth degree of density, 15—24, per sq. km, presents itself in some parishes in Ångermanland, and somewhat more frequently in the southern portion

[1] The grouping is arranged thus, that e. g. the density of population 14·6 is included in the group 15—24. Some deviations, though, from the distribution of the communes have taken place in the production of the map; the most important are that, in the mining parishes of Norrbotten, the density of population is reckoned separately for the municipal communities of Kiruna, Gällivare kyrkoby and Malmberget.

of the coastal districts of Norrland, in larger consecutive tracts in south-east Dalarne and around Lake Mälaren, and is the general density for Götaland, north of Malmöhus län.

The distinguishing tint on the map for a density of population of 25—49 souls per sq. km (the sixth degree), is found sporadically as far north as in the saw-mill districts of Västernorrland, but becomes first more general only in the valleys of Lake Mälaren. A large part of the län of Skaraborg shows this tint, and likewise the plain of Östergötland. This probably indicates the greatest density, which, with a few exceptions, is to be found in any Swedish agricultural district north of Skåne.

With the highest degree of density (50 inh. and above per sq. km) we generally reach the industrial centres. But even this density is represented in the rural parts of Norrland by certain parishes, all with a strong industrial element. In the provinces around Lake Mälaren, this gradation occurs exceptionally, usually in parishes which contain a railway junction, a rather large factory, or the like. It is met with somewhat more often in Götaland, and here also it suggests that the main sources of subsistence are other than agriculture. Only in south Skåne is there to be found uninterrupted agricultural district which is so thickly peopled. On the other hand, all cities and market towns belong to this gradation.

The grouping of the population, at least in the agricultural parts, is closely connected with the geological features of Sweden. It is therefore of interest to compare the map showing the density of population with the geological chart. In later days, however, industry, independently of the character of the soil, has caused certain displacements of the population, e. g., in the saw-mill districts of Norrland.

Moreover, it may be pointed out that a chart of the density of population, arranged under to communes, is quite different from a similar map following the natural divisions of the country. Such a map — which by the way is rather difficult to produce — should, among other things, emphasize the fact that, in Norrland, by far the largest proportion of the population is concentrated along the coast and in the river valleys, between which lie empty tracts many miles in length.

TABLE 12. *Communes of Sweden arranged according to Density of Population.*

Communes grouped according to density of population	Area land Sq. km [1]	Population, 1910	Inhab. per sq. km [1] land	In % of the kingdom	
				Area	Population
Less than 1 inhab. per sq. km [1] . . .	96 543	52 904	0·5	23·53	0·96
1—4 » » » . . .	112 970	244 862	2·2	27·53	4·43
5—9 » » » . . .	42 904	298 886	7	10·45	5·41
10—14 » » » . . .	52 121	626 250	12	12·70	11·34
15—24 » » » . . .	65 480	1 217 981	19	15·96	22·06
25—49 » » » . . .	32 006	1 036 235	32	7·80	18·76
50 or above » » » . . .	8 330	2 045 287	246	2·03	37·04
Total in 1910	**410 354**	**5 522 403**	**13·5**	**100·00**	**100·00**

[1] The table is arranged according to the area and population of communes. In the drawing and tinting of the map divergencies have been made from the boundaries of communes in certain cases, and in consequence of this, the most thinly peopled belt covers on the map a somewhat larger portion of the kingdom than the table indicates.

A summary of the density of population in Sweden for the year 1910 is given in Table 12. The figures are founded upon separate calculations for each commune of the kingdom. In the case of figures giving area, water is excepted.

Thus, it is seen that one half of Sweden has less than 5 inhabitants per sq. km, only about 300 000 persons altogether dwelling in this part of the country. The other half of Sweden possesses, on the contrary, about 5 200 000 inhabitants.

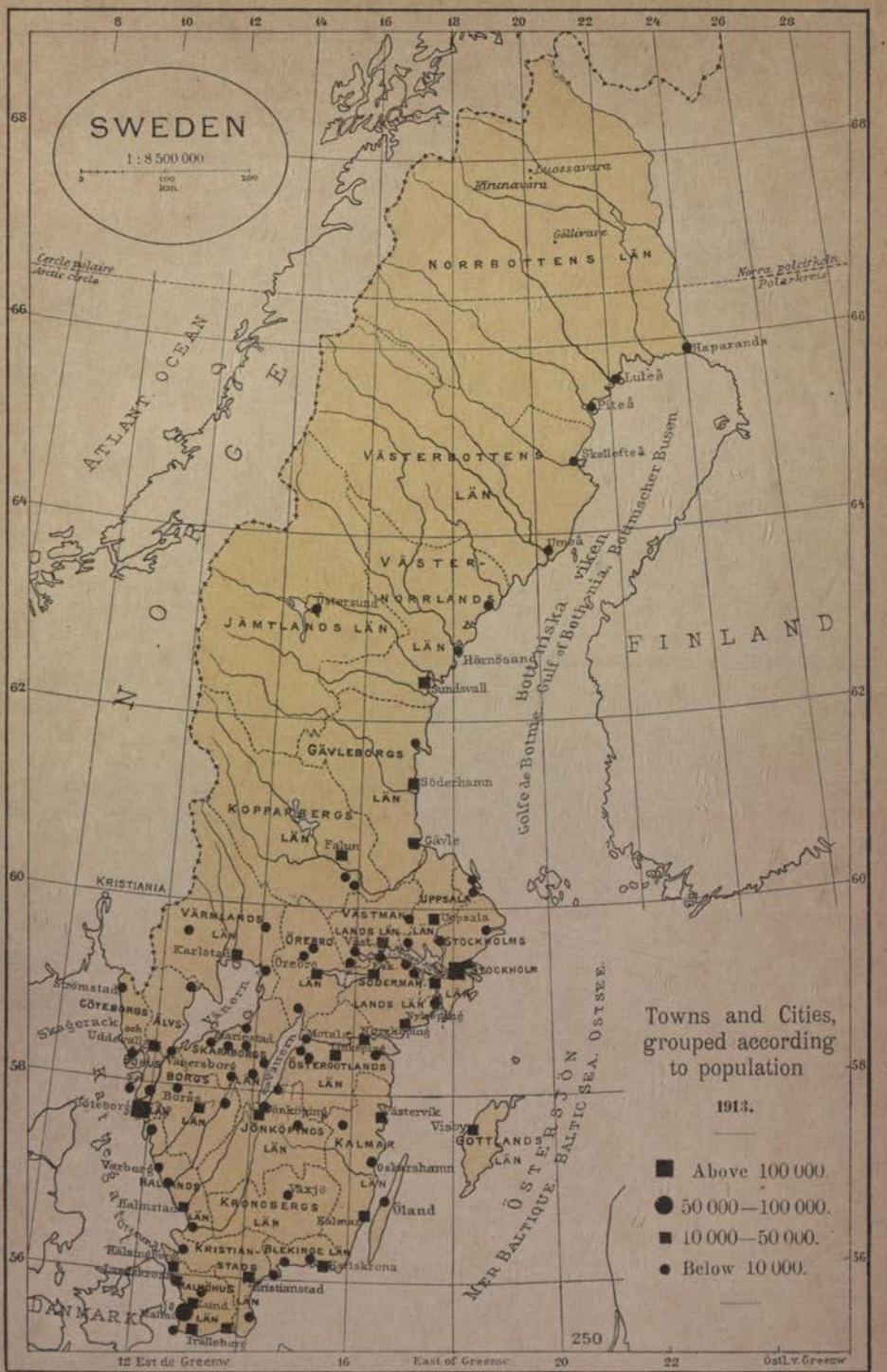
Town and Country.

A great difference exists, according to Swedish law, between urban and rural communes as regards their state administration and their local administration, and even as regards the administration of justice. Municipal rights are conferred by Government and are, at present (1914) enjoyed by just 100 places in the kingdom.

Of these, however, six have no proper jurisdiction, but are subordinate to the provincial court.

Of the 100 towns there are 17 (with altogether, 22 884 inh. 1914, January) each of which possesses fewer than 2 000 people, and which thus, according to general statistical principles, ought not to be counted as towns. As may be seen, however, the whole population of these "rotten boroughs" is so unimportant a part of the whole that it cannot have any effect worth mentioning on the total urban population. A comparison may therefore, without any great difficulty, be made with the urban population of other countries. Rather, such a comparison might be rendered halting by the fact that amongst the places which are not, in law, recognized as towns, there are several which have a total population of more than 2 000 souls. Some of these places have, nevertheless, an administration of a "townlike" character in a certain sense; such are municipal communities or municipalities (*municipalsamhällen*) or market towns (*köpingar*), respecting the import of which nomenclature, see under the section Local Government; but others lack any kind of legal standing. At the beginning of 1911 (Census Dec. 31, 1910), there were 9 market towns, 30 municipalities, and at least 13 other well-populated country places, the inhabitants of each of which exceeded 2 000 in number. The majority of these 52 places were either suburbs, industrial places, or railway centres.

The total *urban population* of Europe is calculated as being about 36 % of the whole number of inhabitants, a figure which rises in Western Europa to nearly 50 %, while it sinks to a little more than 16 % in Eastern Europe. In Sweden, where agriculture has always been the staple industry, the towns contain only 26 à 27 % of the whole population, a figure which, while it is greater than that of every East-European country except probably Turkey, exceeds only that of Finland in countries belonging to the West of Europe. In the beginning of 1914, after the creation of 3 new towns, the whole urban population of Sweden amounted to 1 502 586, whilst the country districts boasted a total of 4 135 997 inhabitants.



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Gen. Stab. Lit. Anst. Stockholm

TABLE 13. *Urban and Rural Population.*

At the end of the years	The whole population	Of this:		Urban pop. in %	Years	Total	Rural population	Urban population
		Rural population	Urban population					
1800	2 347 303	2 117 870	229 433	9.77	*Annual increase, ‰*			
1820	2 584 690	2 330 798	253 892	9.82	1801—20 . .	4·83	4·80	5·08
1840	3 138 887	2 835 204	303 683	9·67	1821—40 . .	9·75	9·84	8·99
1860	3 859 728	3 425 209	434 519	11·26	1841—60 . .	10·39	9·50	18·07
1880	4 565 668	3 875 237	690 431	15·12	1861—80 . .	8·43	6·19	23·42
1900	5 136 441	4 032 490	1 103 951	21·49	1881—00 . .	5·91	1·99	23·74
1913	5 638 583	4 152 743	1 485 840	26·35	1901—13 . .	7·20	2·26	23·12

Meanwhile, it may be observed that if instead of being bound by legal distinctions between town and country, one counts as towns all well-populated places of at least 2 000 inh., the entire town population probably rises to about 1 685 000, corresponding as nearly as may be to 30 % of the population.

We have no statistics of the populations of our towns of an earlier date than 1800. Table 13 shows the development since that date.

The urban population during the 19th century increased from scarcely 10 % of the whole population to more than 21 %. This advance, however, does not begin until the decade beginning 1841, after the abolition of the old guild corporations (1846); since then the population of the towns of Sweden has increased at an unusually rapid rate, far quicker than in Western Europe generally; during quite recent times, since the end of the last century or somewhat later, the increase of urban population, in spite of important incorporations, has gone on somewhat slower, that of rural districts somewhat faster than during the few previous decades. This is chiefly due to the fact already pointed out, that by the side of the old, legally acknowledged towns, new places similar to towns arose, sometimes as suburbs, but often enough as new independent town organizations, or the beginnings of them. The next generation, therefore, will see, in all probability, a great increase in the urban population of Sweden.

At the close of the year 1913, Sweden possessed 2 towns of over 100 000 inhabitants; 1 of more than 50 000 but less than 100 000; 12 of between 20 000 and 50 000 souls; and 15 with a population varying between 10 000 and 20 000. The number of the inhabitants in each of the towns at the beginning and middle of the last century and according to the latest returns (end of 1913) may be seen from Table 14.

Stockholm, the capital of Sweden, is the principal manufacturing and import-town of the country. It is located at the point where the waters of Lake Mälaren flow into the Baltic, that is, at the entrance to the extensive low-lands of Central Sweden. This location of the capital of the kingdom was a most natural one in former days, when the Baltic was the chief scene of Sweden's peaceful or warlike undertakings, and at a time when the greater part of the coasts of the same sea were Swedish possessions.

TABLE 14. *Population of the Cities of Sweden.*

City	1800	1850	1913	City	1800	1850	1913
Stockholm[2]	75 517	93 070	382 085	Enköping	1 139	1 413	5 316
Gothenburg[2]	12 804	26 084	178 030	Falköping	451	693	5 255
Malmö[2]	3 962	13 087	95 821	Arvika	—	—	5 087
Norrköping[2]	9 089	16 916	46 180	Mariestad	1 049	2 059	5 034
Gävle	5 410	9 261	35 736	Köping	1 323	1 501	4 955
Hälsingborg[1 2]	1 741	4 140	34 383	Arboga	1 425	2 233	4 943
Örebro	3 267	5 177	33 112	Falkenberg	668	953	4 624
Eskilstuna	1 341	3 961	29 130	Tidaholm	—	—	4 608
Jönköping	2 684	6 008	27 745	Lysekil	—	—	4 576
Karlskrona	10 166	14 097	27 508	Åmål	842	1 329	4 575
Uppsala	5 105	6 952	27 315	Filipstad	507	1 283	4 491
Linköping	2 680	5 240	24 399	Ängelholm	697	1 310	4 343
Borås	1 774	2 733	22 696	Örnsköldsvik	—	—	3 962
Västerås	2 824	3 780	21 941	Norrtälje	771	1 012	3 878
Lund[1]	3 086	6 709	21 596	Ronneby	—	—	3 492
Halmstad[2]	1 317	2 761	18 432	Strängnäs	1 112	1 244	3 365
Karlstad[1]	2 165	3 807	18 357	Vaxholm	975	911	3 320
Sundsvall[2]	1 468	2 837	16 734	Sölvesborg	637	1 464	3 304
Landskrona	3 827	4 139	16 565	Lindesberg	736	876	2 967
Kalmar	3 253	6 634	15 955	Strömstad	1 367	1 348	2 910
Uddevalla	4 081	3 832	12 823	Motala[2]	—	—	2 861
Södertälje	960	1 245	12 429	Hedemora	727	1 044	2 853
Falun	4 791	4 463	12 091	Vimmerby	916	1 436	2 760
Ystad	2 460	5 089	11 821	Vadstena	1 316	2 225	2 706
Kristianstad	2 369	5 440	11 743	Ulricehamn	633	1 455	2 535
Söderhamn	1 422	1 757	11 501	Piteå	831	1 405	2 534
Nyköping	2 272	3 806	10 822	Hjo	415	816	2 385
Västervik	2 985	4 346	10 801	Simrishamn	644	1 365	2 243
Trälleborg	—	—	10 758	Nora	685	908	2 189
Visby	3 730	4 502	10 012	Söderköping	817	1 254	2 133
Härnösand	1 764	2 738	9 825	Askersund	693	1 047	2 026
Luleå[2]	901	1 257	9 572	Laholm	817	1 102	1 989
Kristinehamn[1]	1 400	2 056	9 222	Torshälla	568	630	1 864
Östersund[2]	150	817	9 113	Marstrand	1 327	1 014	1 831
Växjö	1 135	2 665	8 794	Kungälv	774	867	1 805
Oskarshamn	—	—	8 100	Skellefteå	—	—	1 647
Vänersborg	1 453	3 067	7 780	Skänninge	845	1 230	1 471
Sala	2 147	3 252	7 609	Haparanda	—	554	1 413
Hudiksvall	1 369	2 016	7 544	Mariefred	699	610	1 348
Lidköping	1 282	2 417	7 504	Säter	409	534	1 336
Varberg	1 402	2 123	7 399	Kungsbacka	342	577	1 169
Karlshamn	3 170	5 071	7 362	Borgholm	—	—	1 158
Skövde[1]	423	865	7 068	Gränna	468	902	1 156
Huskvarna	—	—	6 764	Öregrund	681	667	1 148
Umeå	960	1 505	6 187	Trosa	479	471	927
Eslöv	—	—	5 873	Östhammar	589	618	853
Skara	826	1 866	5 649	Skanör[3]	526	755	718
Alingsås	851	1 388	5 452	Sigtuna	452	426	623
Eksjö	1 013	1 866	5 388	Falsterbo[3]	156	282	428

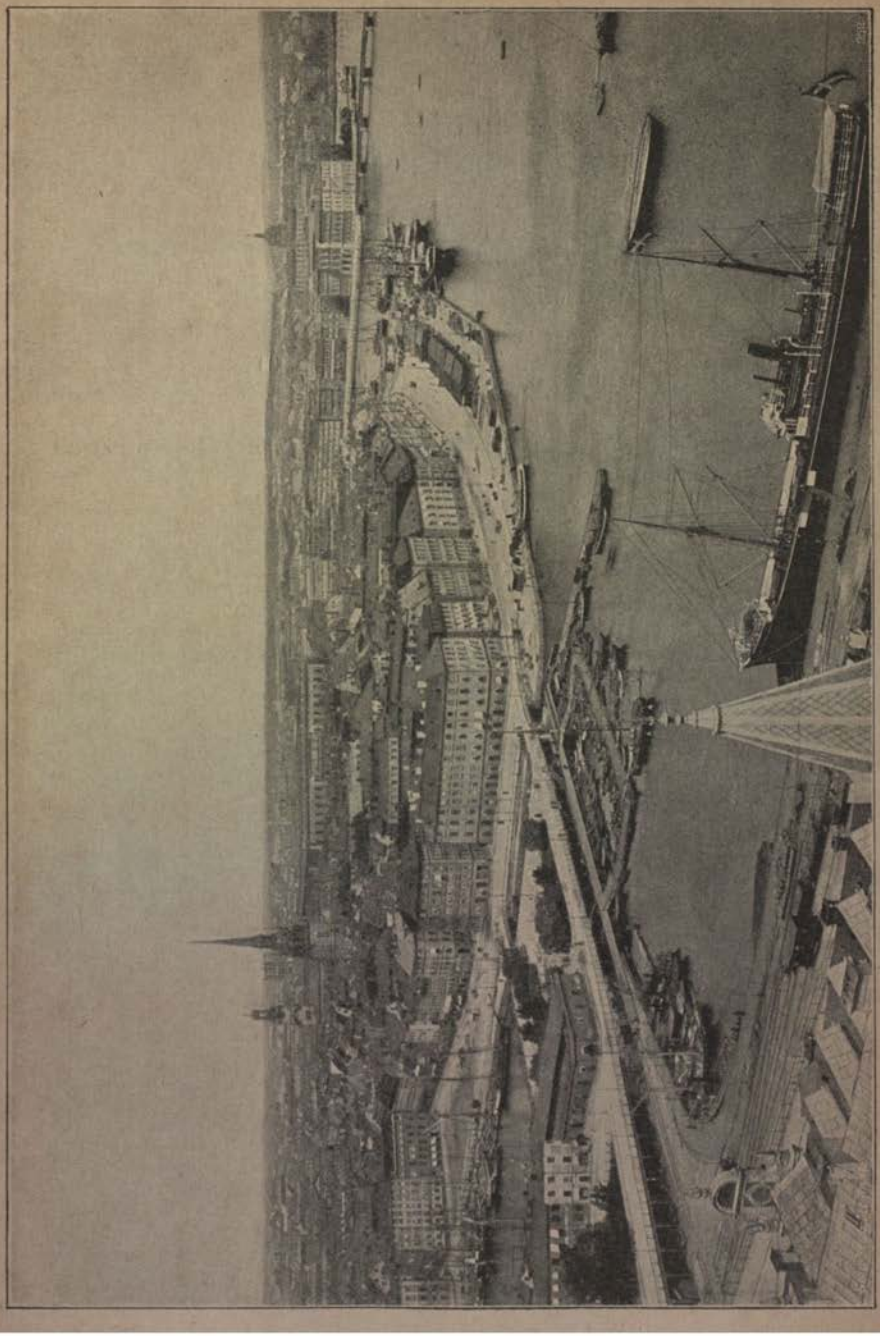
But now-a-days, when the trans-Baltic lands no longer belong to this country, and when the world of commerce has moved westwards, the

[1] At the beginning of 1914 town privileges were conferred on three new towns, viz. Nässjö (6 050 inhab.), Djursholm (3 947), and Hässleholm (2 892). Moreover, several cities were enlarged, and the population at that time should therefore be recorded thus for the following towns: Hälsingborg 34 742, Lund 22 485, Karlstad 18 473, Skövde 9 495 and Kristinehamn 9 288. — [2] Inclusive of *suburbs*, Stockholm has *at least* 425 000 inhab., Gothenburg about 205 000, Malmö 110 000, Norrköping over 50 000, Hälsingborg nearly 40 000, Sundsvall and Halmstad over 20 000 each, Luleå 10 000, Östersund 12 000, Motala 8 000. — [3] Skanör and Falsterbo together constitute *one* urban commune.

position of Stockholm is, in certain respects, not so advantageous as formerly, a circumstance which explains the fact that Stockholm has not become the heart of Sweden to the same degree as Copenhagen, for example, is of Denmark, or Paris of France. During the last few decades, however, Stockholm has undergone great development as a manufacturing town, and at present reckons over 375 000 inhabitants, whereas it had not a fourth of that number at the middle of last century. From the tourists point of view, Stockholm is universally acknowledged to be one of the most beautiful cities in the world, and in proportion as communications with foreign countries are improved its attractiveness will make itself more and more felt.

Stockholm. Vasa Bridge.

The second city of Sweden in point of population, and the first in point of export-trade, is **Göteborg** (Gothenburg), situated at the mouth of the Götaälv, where that river flows into the North Sea. Possessing (with suburbs) something over 200 000 inhabitants, compared with only $^1/_{16}$ of that number at the beginning of the 19th century, Gothenburg is a rich and well-built city, celebrated for a highly developed civic spirit. Gothenburg has, perhaps, the finest position for a commercial city in the whole of Scandinavia; of late, however, its principal development — like that of Stockholm — has been as a manufacturing town.



View of Stockholm from the Katarina Elevator.

Both as regards population, trade, and industrial pursuits, **Malmö**, — the capital of Skåne, takes the third place among Swedish cities, with something over 100 000 inh., including suburbs. The population at the beginning of the 19th century was scarcely 4 000.

Slottsskog Park, Gothenburg.

Of the remaining large towns, *Norrköping*, *Borås*, *Jönköping*, and *Eskilstuna* are chiefly manufacturing towns; the first two are especially known for their textile industries, Jönköping is celebrated for its matches, and Eskilstuna for its excellent iron- and steel-ware. *Sundsvall* has, it is true, only about 20 000 inh., but it is the principal town in Europe for the timber-trade. *Gävle* and *Söderhamn* are also important centres for the same trade. *Uppsala* and *Lund* are the seats of Sweden's two State Universities. *Karlskrona* is Sweden's chief naval station. The town of *Örebro*, on Lake Hjälmaren, is steadily developing as the heart of the midland districts of Central Sweden, while *Linköping* promises to develop into a similar though somewhat smaller centre. *Hälsingborg* is a

rapidly rising commercial and manufacturing town, situated at the narrowest part of the Sound. *Västerås* and *Halmstad* have especially to thank their industries for their progess.

Amongst the smaller towns of less than 20 000 inh., we need here name only *Falun,* near the celebrated copper-mine of the same name; *Visby,* the remarkable and historic capital of the island of Gottland; *Luleå,* the port where the iron-ore of Gällivare is shipped; *Trälleborg,* the port for the Continent, and *Motala,* known for its celebrated engineering works. A number of the other smaller towns of Sweden are celebrated in tourist literature for their beautiful situations; we may mention Södertälje (now also a progressive industrial town), Strängnäs, Gränna, Ängelholm, Marstrand, Säter, etc.

Before the rise of modern industrialism in Sweden, its towns subsisted — apart from extensive farming — principally on commerce. It is significant of this that the greater number of the towns lie by the sea, or near the great lakes, which afford easy access to the sea. At the commencement of the century the towns on the Baltic coast (not including those on the Gulf of Bothnia) possessed 57 % of the whole urban population of Sweden. At present, this proportion has fallen to about 40 %. The towns on the west coast, on the other hand, which, at the beginning of last century, had but 15 %, have now attained to more than 25 %.

There is, as is well known, a very broad distinction between **Town** and **Country** in respect to the greater number of the problems which constitute subjects for treatment in vital statistics. This has been the case not least in Sweden. But during the last few generations this distinction has been to a great degree obliterated in Sweden, *the towns having more and more nearly approached the more natural conditions of the rural districts.* The towns have thus made very considerable progress during the last few decades as regards communal administration. It may be mentioned, for instance, that hygienic arrangements in Stockholm, and also in several other places in Sweden, are regarded as perfect. And even the smaller towns of Sweden nowadays present a most attractive appearance in consequence of their cleanliness and orderliness. In consequence of the spaciousness they generally offer in the houses — a feature peculiar to Sweden — they are considerably larger in extent than might be expected from the population, which is often small.

Division of the population according to age.

The preceding pages have recorded the total population of Sweden, and the division of this population over the area of the country, as well as into the two classes of communities called "town" and "country". If we now proceed to the more specially demographical problems, the most important point of view which presents itself is the one suggested by the title of this section — the division of the population *according to age.*

TABLE 15. *Population by Age per million Inhabitants.*

Annually	0—15 years	15—50 years	50—ω years	15—30 years	30—50 years	50—65 years	65—ω years
1751—1900	**330 842**	**496 852**	**172 306**	**253 365**	**243 487**	**116 070**	**56 236**
1751—1775	335 157	497 420	167 423	254 003	243 417	110 244	57 179
1776—1800	317 927	508 798	173 275	254 605	254 193	119 501	53 774
1801—1825	322 651	503 181	174 168	256 066	247 115	120 597	53 571
1826—1850	342 892	497 407	159 701	258 430	238 977	109 160	50 541
1851—1875	337 064	500 797	162 139	251 488	249 309	110 068	52 071
1876—1900	329 362	473 500	197 138	245 598	227 902	126 858	70 280
1910	317 101	475 461	207 438	226 738	248 723	123 042	84 396

Table 15 shows the figures for Sweden during periods covered by rather more than the last 150 years.

In Sweden, as in Western Europe generally, the group 0—15 thus claims about one third of the population; a proportion which has decreased a little during the most recent times. The group 15—50 generally includes about 500 ‰ of the entire population in other countries, and did so also in Sweden right up to the period before the great emigration began in the 'sixties; later the proportion decreased considerably, so that, e. g., in 1893, it was even as low as 463 ‰, but is now rising again, though slowly. Under the effect of emigration, the group 50—ω has increased from its normal sixth part to more than one-fifth.

At present the population of Sweden is divided according to age in the peculiar manner which is seen from Table 16.

Both the great inferiority in numbers of the groups 0—5 and 20—45, and the redundance in the groups over 50, are what might be expected to result from emigration. The abnormal redundance in the group of highest ages, cannot, however, be explained by this fact *alone*. To be able to understand the phenomenon entirely, it must be remembered that a great part of these ages are now

TABLE 16. *Population by Age per million Inhabitants 1910.*

Age	1751—1900	1910	1910 ‰ [1]	Age	1751—1900	1910	1910 ‰ [1]
0— 5 years . .	124 001	112 183	905	45—50 years .	51 541	51 683	1 003
5—10 » . .	107 415	105 312	980	50—55 » . .	45 341	47 473	1 047
10—15 » . .	99 426	99 606	1 002	55—60 » . .	38 856	40 429	1 040
15—20 » . .	92 401	92 792	1 004	60—65 » . .	31 873	35 140	1 103
20—25 » . .	84 218	82 851	984	65—70 » . .	24 339	30 504	1 253
25—30 » . .	76 746	73 080	952	70—75 » . .	16 604	23 367	1 407
30—35 » . .	70 217	66 670	949	75—80 » . .	9 448	17 045	1 804
35—40 » . .	64 007	58 135	908	80—ω » . .	5 845	13 480	2 306
40—45 » . .	57 722	50 250	871	Total	1 mill.	1 mill.	—

[1] I. e. the figures for 1910 expressed as a proportion per thousand of the corresponding figures for the years 1751—1900.

TABLE 17. *Summary of Movement of Population by Läns, 1901—10.*[1]

Läns	Per thousand of mean population annually						
	marriages	living births	deaths	surplus of births	emi-grants	immi-grants	in-crease
Stockholm city	8·71	24·06	15·71	8·35	5·16	3·39	12·89
Stockholm län	5·55	26·31	15·07	11·24	1·71	0·88	28·73
Uppsala	5·99	23·92	15·30	8·62	1·23	0·24	3·43
Södermanland	5·93	24·74	14·16	10·58	1·70	0·52	6·53
Östergötland	5·97	24·54	14·38	10·16	3·81	0·89	5·14
Jönköping	5·63	24·59	13·88	10·71	5·36	1·20	5·51
Kronoberg	5·22	23·94	15·07	8·87	6·75	2·08	— 0·73
Kalmar	5·44	23·81	15·54	8·27	7·01	1·98	0·22
Gottland	6·24	21·40	15·94	5·46	4·16	1·84	4·54
Blekinge	5·57	26·72	16·03	10·69	6·28	2·36	2·06
Kristianstad	5·61	24·21	15·67	8·54	4·60	1·80	4·13
Malmöhus	6·53	26·60	14·60	12·00	4·21	2·10	11·09
Halland	5·40	25·30	15·40	9·90	8·22	2·88	3·85
Göteborg och Bohus	6·36	27·15	15·36	11·79	4·62	2·41	12·32
Älvsborg	5·12	22·98	15·03	7·95	6·36	2·26	2·90
Skaraborg	5·27	21·63	14·35	7·28	4·10	1·06	0·09
Värmland	5·50	23·71	15·15	8·56	8·34	2·61	2·29
Örebro	5·78	24·43	13·65	10·78	3·83	0·91	6·03
Västmanland	6·00	25·28	14·19	11·09	1·68	0·45	5·10
Kopparberg	6·02	26·71	14·91	11·80	4·59	0·70	7·18
Gävleborg	5·86	28·08	14·36	13·72	4·88	0·68	6·39
Västernorrland	5·88	29·65	14·56	15·09	5·12	0·97	7·54
Jämtland	5·70	27·15	14·01	13·14	7·15	1·01	5·90
Västerbotten	6·24	31·76	14·08	17·68	3·74	0·48	11·53
Norrbotten	6·44	37·20	16·46	20·74	5·60	1·22	17·68
Country	5·58	25·86	14·96	10·90	4·85	1·33	3·01
Towns	7·36	25·48	14·66	10·82	4·85	2·44	21·12
Kingdom as a whole	**6·00**	**25·77**	**14·89**	**10·88**	**4·85**	**1·59**	**7·27**

included in groups which were already unusually swollen from the beginning, and which, moreover, had reached such an age, on the rise of the emigration movement that they escaped the decimation which reduced the numbers of those included in the younger groups of the population in a proportionately higher degree. It may also be mentioned that the same older groups now include those persons who were the first in our land to benefit by that great boom to humanity, called vaccination. Several conditions have thus united to give to the country, for the moment, a disproportionately numerous population in the group including the highest ages — a circumstance which obviously contributes to increase the by no means welcome burden of poor-relief. Also the groups 5—15 years have been unduly swollen, although, on account of the decline of the birthrate, this excess is beginning to disappear. This is an economical burden, on account of the great claims laid by the last named age upon the resources of parents or of the community for instruction and education. A redundance of school-children and of old people, and a paucity of able-bodied persons — that has long been the condition of the population in Sweden, and it is doubtlessly a noteworthy weakness, and one with which economic development has to contend.

[1] In some regards, the relative numbers for the period 1901—1910 are to be considered as preliminary.

Population according to sex.

At the close of 1913, Sweden possessed 2 756 946 inhabitants of the male sex, and 2 881 637 of the female, giving a proportion of 1 045 women to every thousand of men. The proportion for the whole of Europe is 1 027 women to every thousand of men; for Western Europe alone the figure rises to 1 035. The excess of women is thus unusually large in Sweden, and is exceeded only in Norway, Denmark, England, Scotland, Portugal, and — possibly — Spain.

In Sweden the difference was even greater in former times. In 1750 there were 1 129 women to every thousand men — the greatest disproportion ever observed in Europe. How the condition of things has since developed may be seen — in groupings according to age — from Table 18.

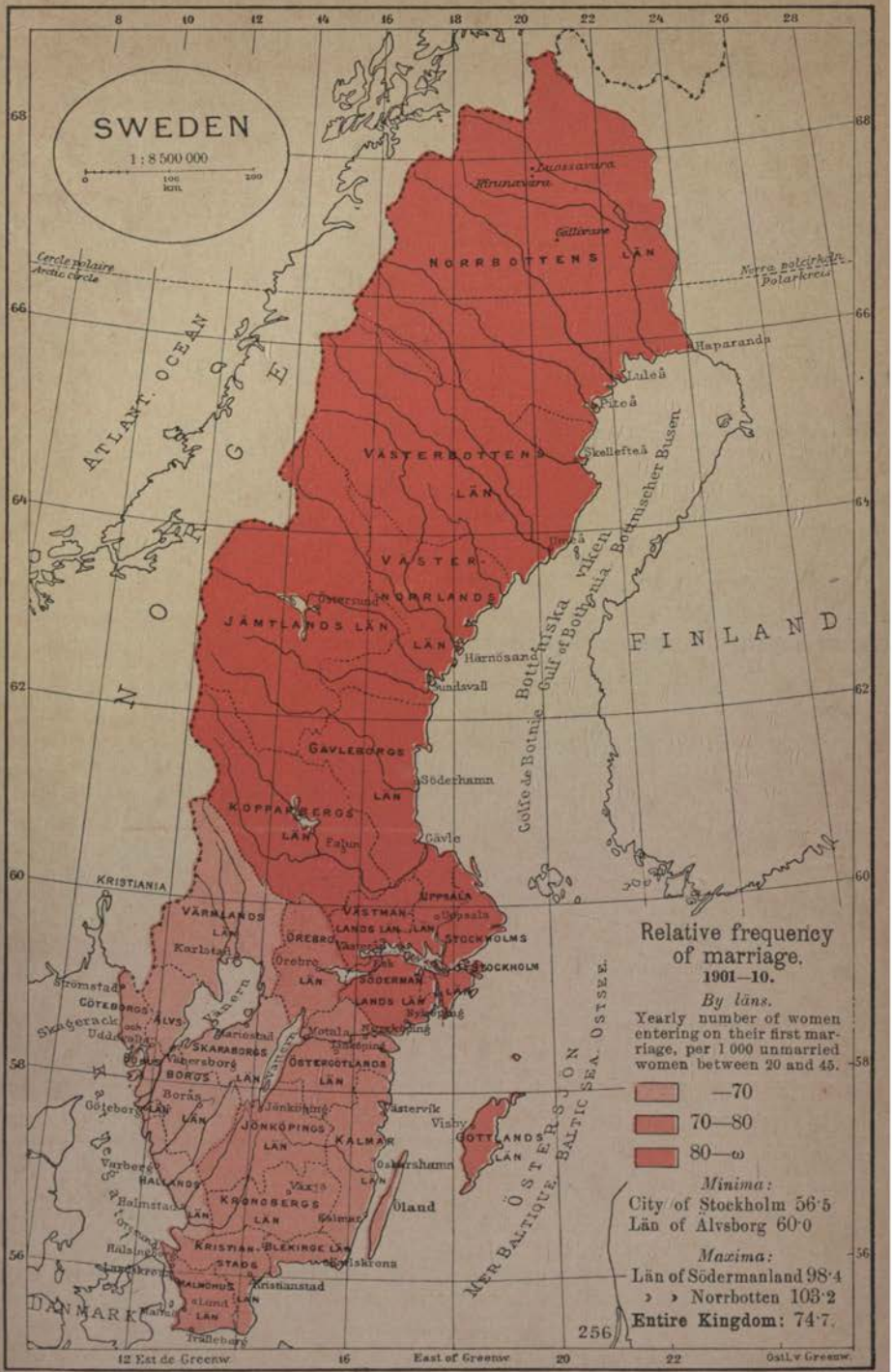
With the exception of the years of war, the period between 1750 and 1865 saw, on the whole, a restoration of the balance in numbers of the two sexes, but this movement has since been checked by emigration, which, during the fifty years 1861—1910, occasioned a loss of 496 000 men, as compared with but 417 000 women. In spite of this great inequality in the numbers of the sexes in the matter of emigration, the excess of women in the population of Sweden has not increased, but has remained almost stationary; this is a fact that must be ascribed to the remarkable circumstance that, since the commencement of emigration, the distribution of both births and deaths, between the sexes, has been much more favourable than before for the male sex.

The distribution of the population according to sex shows marked variations in different districts of the country, and sharp differences in town and country. The males preponderate in Norrland and Dalarne, and also in the rural parts of the läns of Västmanland and Södermanland and in certain limited areas. In 1910, the proportion of women to 1 000 men for country districts in general amounted to 1 010; while for the towns the corresponding figure was 1 166, and for Stockholm itself 1 223.

The relative proportion of the sexes is of greatest importance in the case of *unmarried persons of middle age*. Of unmarried men between the

TABLE 18. *Number of Women per 1 000 Men.*

Annually	Total	0—15 years	15—20 years	20—25 years	25—30 years	30—35 years	35—40 years	40—45 years	45—55 years	55—65 years	65—ω years
1750 . . .	**1 129**	1 006	1 027	1 139	1 122	1 106	1 099	1 148	1 209	1 457	1 520
1751—75 .	**1 107**	1 005	1 037	1 137	1 138	1 122	1 102	1 116	1 174	1 291	1 501
1776—00 .	**1 077**	996	1 033	1 097	1 108	1 087	1 081	1 077	1 123	1 202	1 260
1801—25 .	**1 086**	998	1 017	1 079	1 088	1 104	1 114	1 134	1 154	1 231	1 394
1826—50 .	**1 071**	997	1 011	1 028	1 034	1 046	1 066	1 101	1 169	1 286	1 482
1851—75 .	**1 061**	989	1 003	1 026	1 054	1 065	1 069	1 105	1 121	1 220	1 439
1876—00 .	**1 060**	976	979	1 017	1 062	1 102	1 115	1 119	1 140	1 167	1 295
1910 . . .	**1 046**	965	968	1 013	1 035	1 045	1 062	1 111	1 144	1 162	1 265


SWEDEN
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km
Cercle Polaire
Arctic circle
Norra polcirkeln
Polarkreis
NORRBOTTENS LÄN
VÄSTERBOTTENS LÄN
VÄSTERNORRLANDS LÄN
JÄMTLANDS LÄN
GÄVLEBORGS LÄN
KOPPARBERGS LÄN
UPPSALA LÄN
STOCKHOLMS LÄN
STOCKHOLM
VÄRMLANDS LÄN
ÖREBRO LÄN
VÄSTMANLANDS LÄN
SÖDERMANLANDS LÄN
ÖSTERGÖTLANDS LÄN
SKARABORGS LÄN
BORGS LÄN
GÖTEBORGS OCH BOHUS LÄN
ÄLVSBORGS LÄN
JÖNKÖPINGS LÄN
KALMAR LÄN
GOTTLANDS LÄN
HALLANDS LÄN
KRONOBERGS LÄN
KRISTIANSTADS LÄN
BLEKINGE LÄN
MALMÖHUS LÄN
Öland
Gotland
Haparanda
Luleå
Piteå
Skellefteå
Härnösand
Sundsvall
Söderhamn
Gävle
Falun
Karlstad
Örebro
Stockholm
Uppsala
Strömstad
Göteborg
Borås
Jönköping
Kalmar
Visby
Halmstad
Kristianstad
Malmö
Trelleborg
Karlskrona
Oskarshamn
Västervik
Motala
Norrköping
Linköping
Mariestad
Skara
Vänersborg
Trollhättan
Uddevalla
Lysekil
Varberg
Växjö
Eksjö
Hudiksvall
Östersund
Luossavara
Kiirunavaara
Gällivare
KRISTIANIA
NORGE
ATLANT. OCEAN
FINLAND
DANMARK
Gulf of Bothnia
Bottniska viken
Bottnischer Busen
Golfe de Botnie
ÖSTERSJÖN
MER BALTIQUE
BALTIC SEA
OSTSEE
Relative frequency of marriage.
1901—10.
By läns.
Yearly number of women entering on their first marriage, per 1 000 unmarried women between 20 and 45.
—70
70—80
80—ω
Minima:
City of Stockholm 56·5
Län of Älvsborg 60·0
Maxima:
Län of Södermanland 98·4
» » Norrbotten 103·2
Entire Kingdom: 74·7.
256
12 Est de Greenw
16 East of Greenw
20
22
Ost Lv Greenw.

ages 20—50 years, there were in Sweden, at the end of 1910, 482 307, and of unmarried women between the ages 17—45 years, 580 817. According to this grouping, there were no less than 1 204 women to one thousand men. The latter figures can be set down at no less than 1 442 to a thousand on an average, for the years 1751—75. In this respect, too, a marked improvement has taken place, though interrupted by the periods of greatest emigration. Yet the ratio must still be looked upon as rather high. In Italy, during 1900, the figure was 1 018 and in France (1896) only 986, and so the preponderance was in favour of unmarried men. In Norway, on the other hand, the proportion of women, reckoned in this way, rose to more than 1 400 per thousand men, showing a still greater disproportion between the sexes than in Sweden.

The movement of population within the different läns.

The distribution of the population according to domicile, sex, age, occupation, etc. constitutes what is usually called the *Stand of the population.* The changes among the population through marriages, births, deaths, immigration, and emigration constitute the second demographical classification and is called the *Movement of the population.* Each of the subjects belonging to this division is treated by itself in the following pages; but, in order to save space, some principal data for the different läns are collected and given in Table 19

Civil status and marriages.

The fairest picture of Sweden's demography is that presented by the chapter on mortality; essentially unsatisfactory, on the contrary, are those presented by the chapters dealing with marriage statistics, and with those of emigration, and in the most recent times, too, that which deals with marriage-fecundity.

TABLE 19. *Distribution of the Population according to Civil Status, per million Inhabitants.*[1]

Annually	Children (under 15 years)	Unmarried			Married		Widowers and widows	
		15—20 years	20—25 years	50—ω years	15—50 years	50—ω years	Widowers	Widows
1751—75 . . .	336 427	87 524	139 833	9 057	257 321	107 995	12 812	49 031
1776—00 . . .	320 518	86 025	156 184	9 739	251 946	111 970	15 686	47 932
1801—25 . . .	323 782	89 233	152 122	11 712	246 198	109 463	16 057	51 432
1826—50 . . .	341 475	96 744	149 348	13 102	239 052	96 731	15 595	47 955
1851—75 . . .	337 199	91 419	166 251	15 260	230 196	98 669	17 125	43 881
1876—00 . . .	329 352	93 241	162 409	22 828	207 797	123 797	18 434	42 142
1910	317 101	91 271	173 195	29 844	202 056	125 824	19 570	41 139

[1] Partly based on approximate calculations.

TABLE 20. *Married Women between 15—45 Years, per million Inhabitants.*[1]

Annually	15—45 years	15—30 years	30—45 years	15—20 years	20—25 years	25—30 years	30—35 years	35—40 years	40—45 years
1751—75	**113 637**	35 305	78 332	1 854	10 958	22 493	27 008	26 528	24 796
1776—00	**110 416**	33 381	77 035	1 649	10 175	21 557	26 142	26 376	24 517
1801—25	**108 858**	32 587	76 271	1 208	9 999	21 380	26 139	25 930	24 202
1826—50	**103 974**	30 145	73 829	685	8 788	20 672	25 429	25 276	23 124
1851—75	**99 087**	26 044	73 043	454	7 038	18 552	24 625	25 396	23 022
1876—00	**89 917**	24 961	64 956	500	7 316	17 145	21 632	22 302	21 022
1910	**87 329**	26 467	60 862	506	8 175	17 786	21 609	20 749	18 502

The distribution of the population of Sweden as regards **civil status** during the period 1751—1895 is given, in relative numbers, by Table 19.

Thus, it is seen that, during the years 1751—75, there were, on an average, 257 321 married persons under fifty years of age to every million of the inhabitants. In 1910 this number had fallen to 202 056 per million, it has at intervals been smaller. The average figure for Western Europe, at the present time, is about 250 000, that is, about the same as was found in Sweden in the previous century.

If we regard only to the number of the *married women between the ages of 15—45* — an age-group which is the most suitable as a means of comparison with the number of births — we find that, as a whole and for different ages, it has changed as is shown by Table 20.

The total number of married women, between the ages 15—45, has, thus fallen from 113 637 per million of the total population to 87 329. (The present average for Western Europe is about 113 000 per million.) Between the ages 15—20 the decline is, however, from 1 854 to only 506; between 20—25 from 10 958 to 8 175, and between the ages 25—30 from 22 493 to 17 786. The whole group between the ages of 15—30 has thus fallen from 35 305 to 26 467 or by 25 %; the decline in the older groups is not so noticeable, on the contrary. The decline in the frequency of marriage implies, in the first place, *retarded entry into the married state.*

TABLE. 21. *Percentage of Married at different Ages.*[2]

Annually	Married *men* per 100 in each of the ages below				Married *women* per 100 in each of the ages below					
	20—50	20—25	25—30	30—50	20—45	15—20	20—25	25—30	30—35	35—40
1751—75	64·7	13·6	51·6	85·7	59·2	4·1	24·5	55·0	70·5	78·9
1776—00	60·4	12·0	45·3	81·4	56·7	3·7	22·7	51·6	67·5	76·6
1801—25	59 8	11·6	45·4	81·5	57·2	2·7	22·6	52·2	69·7	76·6
1826—50	59·1	9·9	44·1	82·1	57·5	1·4	20·3	53·1	71·7	78·4
1851—75	56·1	7·3	38·7	78·1	53·8	1·0	17·4	47·2	66·5	74·2
1876—00	54·2	7 8	39·3	76·2	52·4	1·1	17·9	47·2	64 5	71·6
1910	51·4	6·8	37·5	72·3	51·3	1·1	19·6	47·9	63·4	69 3

[1] Groups of five years for earlier times according to approximate calculations.

[2] Before 1870, the numbers are based on approximate estimates, made, however, on reliable data ensuring a high degree of probability.

It would, however, not be quite correct to imagine that the percentage of the *unmarried* in the population has increased to the extent that might be supposed from the figures given above. The fact really is that a great number of the young people who have not found an opportunity of entering into the married state have *emigrated.* In consequence of this, the percentage of married out of the remaining population can be expected to attain a much higher figure than one might expect from the decline in the frequency of marriages. These conditions, both for earlier and later times, are shown by Table 21.

From this table we see that no very considerable diminution in the number of the married has taken place during the *last few decades,* and, as regards particularly the younger women, we now find no diminution at all. Reckoning from the period 1851—75 to 1910, we find that among the women the frequency of marriage has risen in all the groups 15—20, 20—25 and 25—30 years, in the first one from 1·0 to 1·1 %, and in the latter two from 17·4 to 19·6 % and 47·2 to 47·9 % respectively. Even if no importance can be attached to these small changes, it is at least plain that the retardation of marriage has now come to an end. The same is also shown by the *average age of entering on marriage,* which during the last decades has rather fallen than risen.

If we look for the *causes* of the diminished frequency of marriage in Sweden, it is of importance first to find out when this diminution really began. On a closer examination of Tables 21 and 22, we find that the period 1751—75 (on the average) is marked by a very great frequency of marriage, which, in a good many ways, must be regarded as exceptional (and would be regarded so anywhere in Western Europe). We next find that the half-century 1776—1825 shows little or no decrease. Thus, the entire loss can, on the whole, be said to fall in the period after 1825 (or really after 1835).

Concerning the period 1826—50 (or really 1836—60), the very low figures during this time can be explained by the abnormal excess of the youthful element of the population, resulting from the great number of births after the end of the Napoleonic wars. The ower-crowding of the labour-market resulting from this state of things very naturally diminished the possibilities of marriage (and this same fact has probably not an unimportant share in the troubles and disturbances in the European continent in 1848). It is also during 1836—60, as an actual fact, that the period of *retardation* of marriage falls in this country.

The diminished frequency of marriage which does not explain itself by the above conditions began only *after 1860.* Thus the cause of this diminution can be none other than the fact, already noticed, that Sweden, during this time was drawn away from its former, more isolated, industrial life and became involved in universal competition under conditions which were extremely unfavourable — as will be shown in the section dealing with the industries of Sweden. In this way, both the diminished frequency of marriage and the beginning of emigration is really explained. In the same degree as the indicated, transitional difficulties are overcome, prospects should be opened up that both the deplorable phenomena we have described will cease. But, nevertheless, we must confess that the diminished frequency of marriage can partly be ascribed to the steadily rising pretentions in the style of living, and the consequently increased difficulties of bringing up a family. Some importance must also be attached

TABLE. 22. *Relative Number of Marriages.*

Annually	Marriages per 1 million inh.	Per 1 million inh.		Married per 1 000 unmarried, 20—50 years	Per 1 million inh.		Married per 1 000 unmarried, 20—45 years	Per 1 million inhab. wedded	
		Unmarried men, 20—50 years	Married men, first marriage		Unmarried women, 20—45 years	Married women, first marriage		widowers and divorced	widows and divorced
1751—75	8 684	65 253	7 234	110·9	72 195	7 633	105·7	1 450	1 051
1776—00	8 369	76 172	6 956	91·3	77 055	7 315	94·9	1 413	1 054
1801—25	8 595	74 733	7 189	96·2	74 208	7 549	101·7	1 406	1 046
1826—50	7 310	75 876	6 339	83·5	70 457	6 638	94·2	971	672
1851—75	7 041	83 281	6 242	74·9	78 987	6 595	83·5	799	446
1876—00	6 191	80 516	5 553	69·0	77 150	5 906	76·6	639	285
1901—10	5 996	85 212	5 502	64·6	77 863	5 786	74·3	494	210

to the decline in mortality and its result, the deferred inheritance of the means of living — as pointed out especially by *Wicksell* and *Flodström* —, though the decrease of mortality also, in part, has a contrary effect; for by increasing prosperity, it also promotes the opportunities of gaining a livelihood.

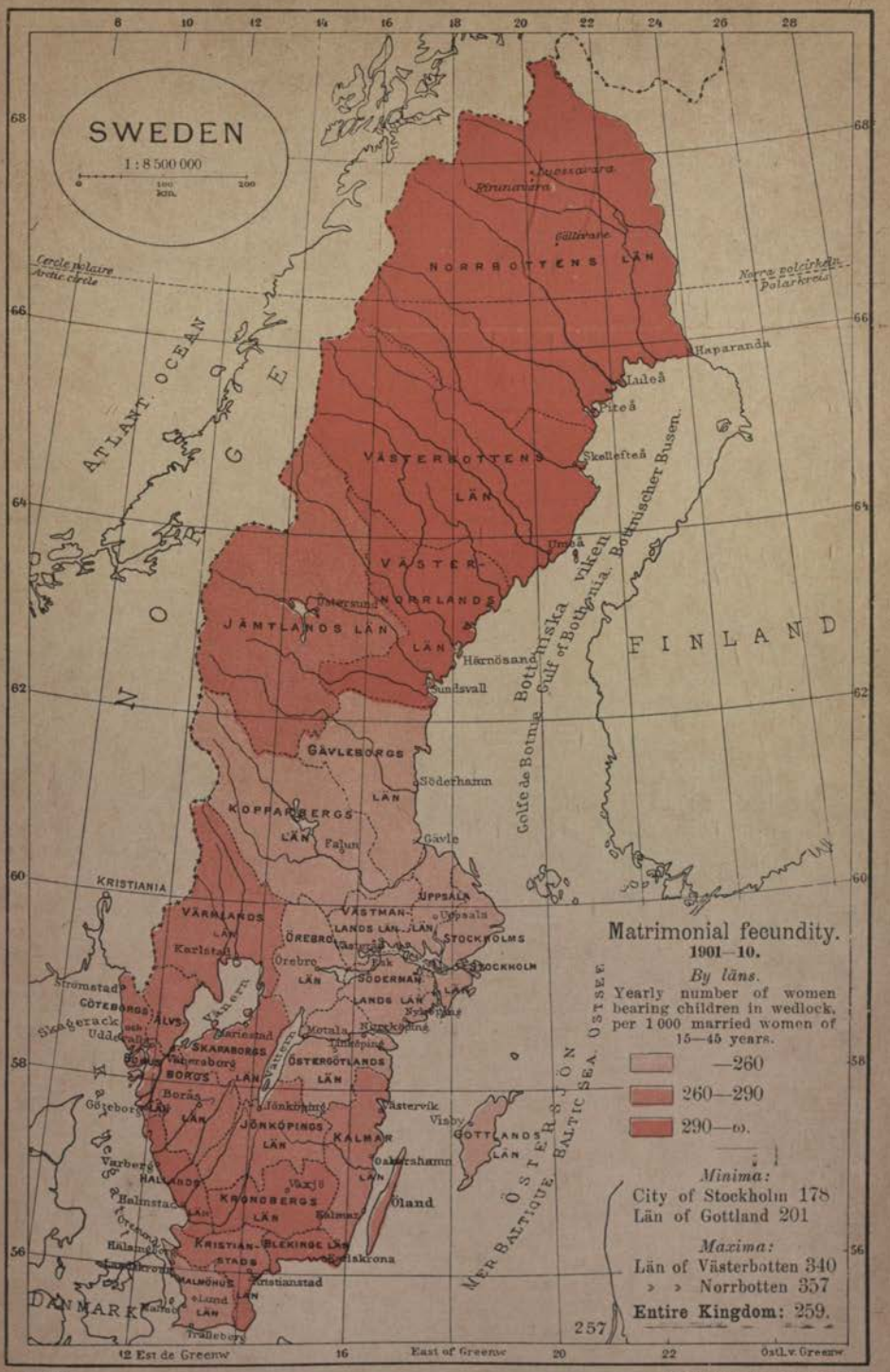
Marriages. The account given above was intended to illustrate the distribution of the population according to the civil status. We have now to give some description of the ordinary demographical details concerning actual marriages. The principal facts can be seen from Table 22.

We must here point out the extraordinary decline in the number of **remarriages,** a circumstance which, no doubt, stands in connection with the decline in mortality. At the present time, second marriages are less frequent in this country than in almost any other country in our continent.

The **average age** for marriage has been, during the years 1901—10, for men 30·03 years, and for women 26·89 years. The difference in age thus amounts to 3·14 years; formerly this difference was unusually small in Sweden, but has somewhat increased of later years. As regards first marriages alone, the average age of the men is taken to be 28·66 years, and of the women, 26·40 years; of second marriages, the men's age is given at 45·27 years and the women's at 40·34 years.

Of the persons entering upon marriage in the years 1901—10, 0·4 % of the men and 13 % of the women were less than 21 years of age. These figures are the lowest of their kind in the whole of Europe. From a physical, moral, and social point of view, the noted writer *Emil Svensén* has thoroughly investigated the subject of *premature* marriages. Among nations where premature marriages are common, he generally finds a deficiency of physical and intellectual strength, and, to a certain extent the stagnation of development (infantilism); perfect bodily and mental development, will power, and self-esteem, belong pre-eminently to those nations where marriages are made at more mature ages. Thus, the figures shown above must be considered as very favourable for Sweden. Also, in no other nation is the minimum age for the marriage of the woman kept as high as in Sweden (at present 17 years to which it was raised in 1892, as a result of a bill brought before the Riksdag).

Characteristic differences are usually found regarding the **season of the year** in which marriages are celebrated in different countries. In Sweden, during the years 1901—10, as many as 17·2 % of all marriages took place in December, 12·7 % in November, and 12·6 % in October: thus 42·5 % in all, during the last quarter of the year. During the first quarter, on the other hand, only



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Gen. Stab. Lit. Anst. Stockholm

14·4 % were entered into. These differences were more pronounced in former times, and nowadays are found more in the country than in towns.

The frequency of marriage has risen more in *towns* than in *rural districts*. In the different **provinces** of Sweden it has displayed rather great variations. In general it has been higher in North Sweden, where the timber-trade offers many opportunities for work at high wages, but this local difference now seems to be on the road to be equalized.

Births.

As may be seen from Table 10, the number of living births, which, in the years 1751—75, amounted to 34·44 ‰ of the population annually, has since that date almost uninterruptedly declined so that, for the period 1901—10, the figures are only about 25·77 ‰.

The reasons for a diminution of births are really threefold. Firstly, at present the productive ages find an abnormally low representation in Sweden, obviously owing to emigration. It appears from Table 23 that, during the years 1751—75, to every million inhabitants more than 113 000 married women were below the age of 45, and lately the corresponding figures do not reach 88 000. Hence it is no wonder that the number of births is not relatively the same as before. Add to this the second reason, that the number of new marriages has remained for several decades on a low level. Thirdly and finally, the fecundity of marriage has, in recent times, shown a consistent tendency to fall.

Table 24 indicates an historical survey of the number of births and the fecundity at different *ages*, the only one of its kind that can be produced in the vital statistics of any country.

Among the most remarkable features in Table 24 is to be noted the important increase of matrimonial fecundity shown between the ages 35—45, during the period 1826—1875. The circumstance clearly depends upon the retardation of marriage which prevailed during a great part of that time. The table moreover shows very clearly that, except within the specified

TABLE 23. *Relative Number of Women bearing Children.*[1]

Annually	Per 1 million inhab.		Mothers, ‰	Per 1 million inhab.		Mothers, ‰	Per 1 million inhab.		Mothers, ‰
	Women, 20—45 years	Women bearing children		Married women, 15—45 years	Mothers of legit. children		Unmarried women 20—45 years	Mothers of illegitim. children	
1751—75 . .	189 729	34 783	183·3	113 637	33 872	298·3	77 946	911	11·7
1776—00 . .	191 676	33 479	174·7	110 416	32 017	290·0	82 909	1 462	17·6
1801—25 . .	188 107	33 246	176·7	108 858	30 967	284·5	80 457	2 279	28·3
1826—50 . .	179 655	32 183	179·1	103 974	29 725	285·9	76 366	2 458	32·2
1851—75 . .	183 176	32 346	176·6	99 087	29 188	294·6	84 543	3 158	37·4
1876—00 . .	170 642	28 875	168·9	89 912	25 836	287·3	81 224	3 039	37·4
1910	169 816	24 904	147·5	87 329	21 327	244·3	82 487	3 577	43·6

[1] For earlier years partly based on approximate calculations.

TABLE 24. *Relative Number, by Age, of Women bearing Children.*

Annually	Women bearing children, per 1 000 women, within each age-group [1]							Women bearing legitimate children per 1 000 married women, within each age-group [2]					
	15—20	20—25	25—30	30—35	35—40	40—45	45—50	20—25	25—30	30—35	35—40	40—45	45—50
1751—75 . .	23	122	220	238	191	100	24	474	388	332	238	123	31
1776—00 . .	21	116	207	226	182	95	23	467	381	325	232	121	30
1801—25 . .	16	119	214	229	185	98	20	457	377	312	232	124	27
1826—50 . .	10	109	217	242	198	107	18	454	373	314	242	134	24
1851—75 . .	8	101	204	233	203	118	19	466	380	326	260	152	25
1876—00 . .	12	109	199	217	188	108	16	457	374	315	251	142	21
1910	19	121	178	174	145	74	9	434	325	255	198	100	13

age-limits, fecundity did not decline to any great extent during the greater part of the 19th century. In recent times conditions have changed. If, as a criterion of matrimonial fecundity, the ratio be considered between the number of mothers of legitimate children on the one hand, and on the other that of married women up to 45 years of age, we find from Table 23 that the ratio under consideration scarcely altered at during the six quarter-centuries between 1750—1900, and that, in the seventies, it was even as high as 300·9. But since then it has shown a decided tendency to fall. For the four last five-year periods in the 19th century the ratios are 294·5, 289·3, 278·8 and 273·4 respectively, and the years of the 20th century already elapsed show a downward movement almost uninterruptedly, commencing with 272·0 (in 1901) and ending with 236·2 (in 1911). Corresponding figures have not been ascertained for the last two years, but, judging from preliminary returns for the number of living births, there is reason to suppose that fecundity will prove to be still lower then than in 1911. The decline is now encountered (as appears from Table 24), among all age-groups of married women.

The above phenomenon is by no means a peculiarity to Sweden, but has been observable of late years in nearly all countries with European populations. However, the birth rate in Sweden is, at present, remarkably low, even in comparison with other lands, a fact which is partly due to the protracted paucity of fresh marriages. So far as matrimonial fecundity is concerned (expressed by the number of legitimate births per thousand of married women of the ages 15—45), it was even in the 'nineties 276·1 in Sweden, 262·7 in Western Europe, and 285·3 in North-Western Europe taken separately.

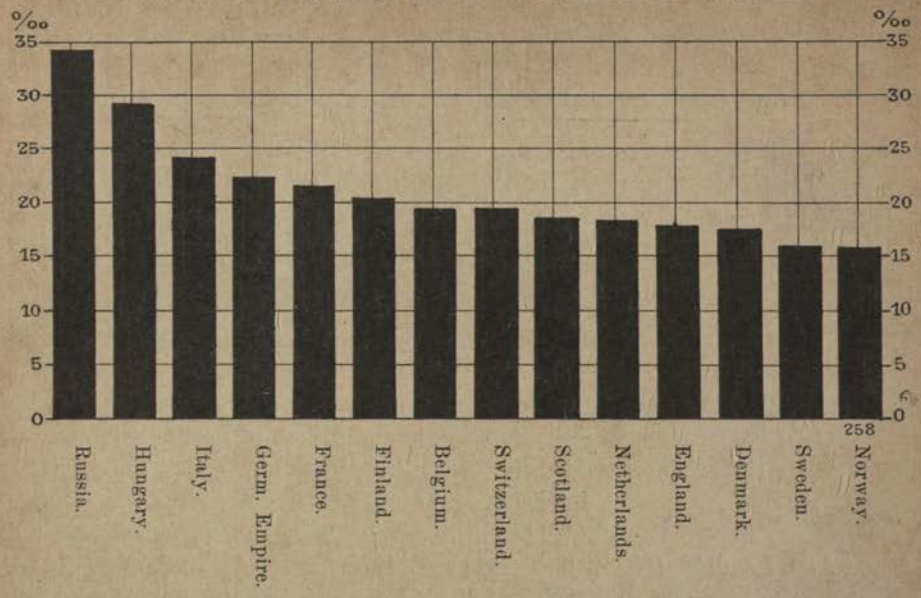
We may here insert some of the chief facts concerning births, culled from the detailed information with which we are so amply supplied by the Swedish vital statistics.

The living births in the years 1751—75 were distributed according to sex in the proportion of a thousand girls to 1 044 boys. At present (1901—10) the

[1] For the years 1751—75 based on approximate calculations. — [2] Before 1870 partly by approximation.

Death-rates 1891—1900.

Yearly number of deaths per 1 000 inh. (‰) of the mean population.



ratio is a thousand girls to 1 059 boys — which is rather higher than for Europe in general. During the same period, the relative number of boys amongst the total number of births (thus including still-births) has risen from 1 051 to 1 065.

Of the total number of births during 1751—55 there were, on the average, 25 ‰ **still-born.** Omitting the years 1801—20, this frequency gradually rose until the years 1861—65, when it reached 33 ‰; since then, a considerable diminution has taken place. At present, the number of still-born children amounts only to 25 ‰ — a low proportion, compared with that of most of the other European countries.

Multiple births occur in Sweden more frequently than in any other country in Europe, excepting Finland. During the period 1750—1815 the frequency of such births *rose* very considerably: from 1 014·7 children, born of every thousand of mothers, to about 1 018. After that date the frequency fell again. During the last fifty years, the number has been practically constant, or about 1 015 children to every thousand of mothers.

Mortality.

During the decade 1901—10, the average yearly number of deaths in Sweden amounted to but 14·89 per thousand of the population. Statistics show a lower mortality in Norway or Denmark for the same period; otherwise the figures given are the *lowest ever observed in any European country*. Lower figures have sometimes been given for certain parts of America and Australia, but they cannot be regarded as reliable. It is, therefore, highly probable that this Swedish figure is the lowest ever observed

TABLE 25. *Mortality in Sweden, compared with that of some other Countries.*

Annually	Death-rate, ‰					Death-rate in Sweden in % of that in			
	Western Europe	Sweden	Norway	England	France	Western Europe	Norway	England	France
1801—20	28·0	26·8	23·1	.	27·3	96	116	.	98
1821—40	26·7	23·2	19·6	.	24·7	87	118	.	94
1841—60	26·2	21·2	17·6	22·3	23·5	81	120	95	90
1861—70	26·1	20·2	18·0	22·5	23·6	77	112	90	86
1871—80	25·7	18·3	17·0	21·4	23·7	71	108	86	77
1881—90	24·0	16·9	17·1	19·2	22·2	70	99	88	76
1891—00	22·1	16·4	16·2	18·2	21·5	74	101	90	76

in the whole world, with the exception of the neighbouring Scandinavian countries.

In Table 10 is given a summary of the course of mortality in Sweden, during the two past centuries; and in Table 25, a comparison with some other countries for the century which has just ended. It is clear from the latter table how much more satisfactory the position of Sweden became during the greater part of the century under consideration. Contrasted with the death-rate of the whole of Western Europe, that of Sweden was only 4 % lower between 1801—20, whereas it was 30 % lower between 1881—90. During the 'nineties the difference shrank again to 26 %. In most recent times certain countries have, on the whole, recovered some of the lead, so to speak, that Sweden had gained in the matter of a diminished death-rate, which has attained a point beyond which further improvement can only take place with difficulty, whereas, in most other countries, the high death-rate leaves room for considerable improvement. In Norway at one time the mortality was always lower than in Sweden: in the 'eighties and the greater part of the 'nineties,

TABLE 26. *Death-rates by Age, in Sweden, compared with other Countries*

Age	Death-rates, 1871—80, ‰		Sweden %	Death-rates, 1881—90, ‰		Sweden %	Death-rates, 1901—1910, ‰		Sweden %
	Western Europe	Sweden		France	Sweden		England	Sweden	
0— 5 years	89·21	52·27	59	65·91	43·55	66	44·64	28·41	64
5—10 »	8·83	8·49	96	6·24	7·74	124	4·07	4·06	100
10—15 »	4·62	4·18	90	4·01	4·03	100	2·04	3·16	155
15—20 »	5·99	4·50	75	6·09	4·53	74	2·88	4·64	161
20—25 »	8·34	6·23	75	7·50	5·92	79	3·64	6·03	166
25—35 »	9·61	7·34	76	9·42	5·55	70	5·18	6·10	118
35—45 »	12·15	9·27	76	11·12	8·17	73	8·64	7·15	83
45—55 »	12·21	13·05	76	15·32	11·51	75	14·97	10·14	68
55—65 »	31·51	23·52	75	28·14	21·08	75	29·01	18·27	63
65—75 »	69·39	53·57	77	62·64	47·09	75	62·74	41·97	67
75—ω »	164·32	141·55	86	146·09	134·88	92	143·86	125·80	87
Total	**25·65**	**18·27**	**71**	**22·23**	**16·94**	**76**	**15·38**	**14·89**	**97**

Sweden took the lead in the matter of a low death-rate, but it has since lost some ground to Norway, and, on the whole, to Denmark.

During the ten years 1901—10 the total average death-rate per thousand amounted to the following among various countries: for Sweden, 14·9; Norway, 14·2; Denmark, 14·2; England, 15·4; Scotland, 16·6; Netherlands, 15·1; Belgium, 16·4; Switzerland, 16·7; Finland, 18·0; France, 19·4; the German Empire, 18·7; Italy, 21·6; Western Austria, 22·2; Servia, 23·3; Galicia-Bukovina, 26·0; Hungary, 25·7; Russia, 31·0.

Table 26 gives a comparison, covering certain years, between the mortality at certain ages in Sweden, on the one hand, and, on the other, in the whole of Western Europe, in England, and in France. It is very evident that Sweden's position is extraordinarily favourable during the early years of life, but not, by any means, in these alone. In the group 0—5 years, the mortality in Sweden is 41 % lower than in Western Europe, 34 % lower than in France, and 31 % lower than in England. If we regard the first year of life alone, the difference is generally still more favourable to Sweden.

The position is, on the other hand, less favourable for the age-group 5—15, and especially for the period 5—10 years, the time when infectious children's diseases are rife, and which thus forms "the Achilles-heel" of the poorer and less populous countries. The richer and more populous countries here easily win an advantage, by means of their greater resources as regards the necessary medical aid.

The mortality in Sweden in every age-group between the years 15—75 is about 25 % lower than in Western Europe in general.

TABLE 27. *Death-rates in Sweden. By ages. Yearly,* ‰.

Age	1751—1775	1776—1800	1801—1825	1826—1850	1851—1875	1876—1900	1901—1910	1773 [3] (Max.)	1809 (Min.)
0— 1 year [1]	210·83	196·74	183·36	162·82	140 53	110·17	84·23	285·85	72·18
1— 3 years [2]	55·28	52·66	47·51	34·66	36·86	27·86	16·53	117·32	12·47
3— 5 »	28·60	25·92	19·62	15·57	19·70	14·43	6·95	74·52	4·98
0— 5 » [2]	87·24	81·62	73·78	59·67	57·29	42·70	28·41	136·74	23·19
5—10 »	14·18	12·08	10·04	7·74	9·26	7·43	4·06	44·94	2·97
10—15 »	7·53	6·27	6·00	4·53	4·63	3·97	3·16	24·90	2·46
15—20 »	7·26	6·42	6·42	4·92	4·90	4·61	4·64	18·85	4·15
20—25 »	8·76	8·00	8·42	6·91	6·52	6·05	6·03	19·68	5·57
25—30 »	10·38	9·56	9·28	8·23	7·28	6·55	6·11	21·28	5·67
30—35 »	12·53	11·07	10·73	10·17	8·36	6·78	6·09	24·78	5·81
35—45 »	14·84	13·25	14·06	13·60	10·72	8·13	7·15	29·63	6·78
45—55 »	21·35	18·70	20·99	19·98	15·79	11·39	10·14	45·11	9·54
55—65 »	35·12	32·81	37·75	34·43	29·19	20·71	18·27	75·05	17·47
65—75 »	70·35	74·65	76·13	73·76	63·10	46·99	41·97	130·12	40·58
75—ω »	168·64	169·72	181·97	176 17	155·32	133·42	125·80	224·26	122·48
Total	**28·71**	**26·22**	**25·83**	**22·27**	**20·32**	**16·95**	**14·89**	**52·65**	**13·67**

[1] Per thousand of the number of living births. — [2] Per thousand of mean population. — [3] Famine.

The mortality, according to age, for Sweden, can be studied ever since the year 1750. A very brief summary of the results of such an examination is given in Table 27.

The decline of mortality, viewed from the other side, naturally brings with it an increase in the length of life. According to the Swedish tables of mortality, the **Expectation of life** for a new-born child is, in this country:

Years	Both sexes	Men	Women
1755—1775	35·20 years	33·90 years	36·60 years
1816—1840	41·43 »	39·50 »	43·56 »
1861—1870	44·58 »	42·80 »	46·40 »
1881—1890	50·02	48·55 »	51·47 »
1891—1900	52·30 »	50·94 »	53·63 »
1901—1910	55·77 »	54·53 »	56·98 »

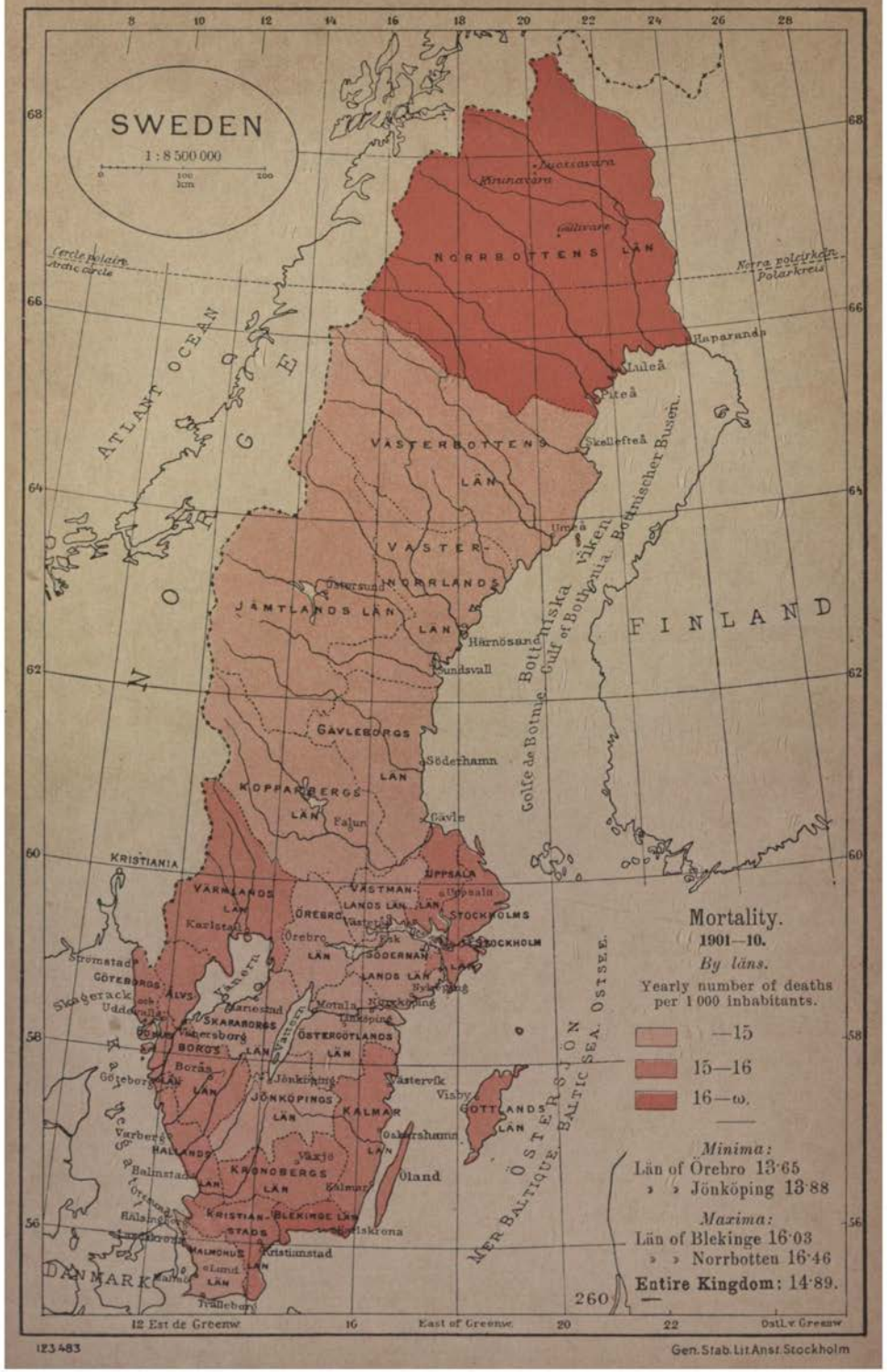
The average length of life has thus increased since the 18th century from 35 to 55 years. This fact alone is sufficient to show the complate revolution effected during the 19th century in almost every condition of human life. According to the conditions of mortality 1891—1900,[1] the mean length of life is now, in Sweden, 52·30 years, in Norway, 52·22, in Denmark, 51·75, in England, 46·00, in Belgium, 47·12, in the Netherlands, 47·80, in Finland, 44·30, in France, 47·44 years. In the *rural districts* of Sweden, according to calculations for the decade 1891—1900, the average length of life reaches 53·55 years, but in the towns only about 47·32. The average length of life for the men in the rural districts was 52·77 and in the towns only 43·93, for the women in the country districts 54·35, and in the towns 50·43.

Finally, a few *details* may be copied from the copious Swedish mortality statistics.

In the **rural districts,** the mortality for all ages has sunk, if we compare the periods 1816—40 and 1901—10, from 22·26 ‰ to 14·89‰; for the **towns** the decrease has been from 34·44 ‰ to 14·96 ‰. The figures for the towns were, then, during the former period, 55% higher than those for the rural districts, but during the latter period, nearly the same — a striking testimony to the improved sanitary conditions and communal administration of the towns in general. The higher figures, which still generally distinguish the towns from the rural districts, are due almost entirely to the higher death-rate amongst children of tender years — especially those of illegitimate birth — and amongst middle-aged men. Among married women, also, the death-rate is somewhat higher in the towns.

For the years 1901—10 the mortality in the **first year of life** amounted to 85 per thousand of live-born childern. For rural districts the figures were 80 ‰; for towns, 101; for the län of Värmland, only 64 ‰; for that of Jönköping, 65; Skaraborg, 66 ‰ and so on. The figures were highest for the läns of Västernorrland and Norrbotten (104 and 109 respectively) and the city of Stockholm (120). We may recall that the *average* figure for Western Europe

[1] For a few of the countries in question, the period of investigation does not exactly coincide with this decade.



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is about 175 ‰. The mortality amongst legitimate children in Sweden for the years mentioned was 78 ‰; amongst illegitimate children, 132 ‰.

Deaths by violence (not including suicides) amounted annually to about 640 per million of the population, during the period 1821—40; this figure sank to 404 for the decade 1901—10.

During the period 1901—10 the various **months** of the year showed the following death-rates per annum, in ‰: January 16·32, February 17·16, March 17·08, April 17·13, May 16·04, June 14·56, July 13·33, August 12·38, September 12·17, October 12·94, November 14·33, and December 15·37. The average for the year was 14·89. In former days, spring was the most dangerous time, now it is rather winter. — The influence of the seasons on mortality is considerably less in the north of Sweden than in the south — just the contrary to what we should expect. Between the rural districts and the cities, the difference is greatest during the summer months, especially for the male sex. For the most advanced ages, the death-rate is greatest during the winter; during middle life, in the spring. For the earliest years, winter is generally the most disastrous, but at times, in towns, midsummer also; more especially formerly was this the case.

The rates of mortality in the different **läns** of Sweden, are exhibited by the map on page 140. In the läns about Lakes Vättern and Vänern and also in several northern läns, the mortality now amounts to only about 14 ‰, — really a most satisfactory result. In former times, mortality was lowest in the län of Jämtland (for 1841—50 only 12·95 ‰ — probably a world's record), but later it increased there, as a result of the development of the timber-trade and the consequently great immigration, though a return to lower figures has taken place in most recent times. The mortality in the city of Stockholm was formerly very great, but nowadays the position is, on the contrary, very satisfactory. During the period 1906—10, the mortality in Stockholm amounted to but 14·8 ‰, or less than in the majority of the other European capitals.

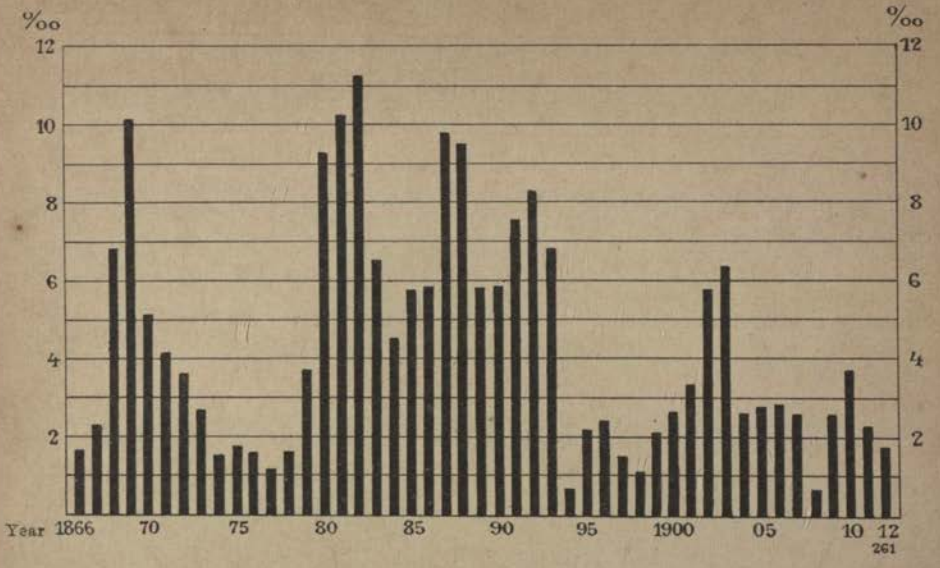
Immigration and emigration.

As is well known, the modern emigration movement can be said, to date — roughly — from the decade beginning with 1840. In Sweden, however, it began somewhat later, the Swedish *emigration-periods* proper being between the years 1867—73 and between 1879—93. In general, it has been somewhat less of late, though rushes occurred in certain years, notably in 1902 and 1903.

It has already been shown (in the chapter dealing with Civil Status and Marriages), how the great stream of emigration from Sweden, during the periods named above, (the relative greatness of which was only exceeded by that of Norway and Ireland) can be in the main explained by the unfavourable conditions under which the transition to modern industrialism took place in this country.

That emigration assumed the great proportions it did at one time, is also partly to be ascribed to that inborn love of roaming and adventure which the people shares with the other Germanic races — a spirit which is unusually developed amongst them. And a Swedish population of more than one million souls having established itself in America, it naturally exercises such a great power of attraction, on account of kinship and other ties, that we can hardly suppose that emigration will ever quite cease.

Net Emigration per 1 000 Inhabitants.



A general survey of the movement of population in Sweden during the period 1851—1910 with a special view to emigration and immigration, is given below in Table 28.

Thus we see that, during these sixty years, about 1 285 000 persons in all have emigrated from Sweden, of which number only 250 000 have been replaced by immigration, or by the return of emigrants — a more common occurence. The net amount of emigration thus exceeds one million of persons; of a truth, a most material loss for a people numbering but five and a half millions.

On the whole, the tide of emigration has risen *above* the average, only between the ages 15—35. The consequence of this will be that the growth of these age-groups is slower than that of the rest of the population — even if they do not actually diminish — and thus that their numerical importance becomes smaller in proportion to the total population. A natural consequence

TABLE 28. *Movement of Population in Sweden, 1851—1910.*

Factors of the movement	Total	Men	Women
Population, 31 december 1850	**3 482 541**	**1 687 248**	**1 795 293**
Births, 1851—1910	**7 878 086**	4 041 760	3 836 326
Deaths, 1851—1910	**4 802 842**	2 423 346	2 379 496
Excess of births	**3 075 244**	1 618 414	1 456 830
Emigrants 1851—1910	**1 285 350**	748 415	536 935
Immigrants, 1851—1910	**249 968**	141 482	108 486
Excess of emigrants	**1 035 382**	606 933	428 449
Increase of population 1851—1910	**2 039 862**	1 011 481	1 028 381
Population, 31 december 1910	**5 522 403**	**2 698 729**	**2 823 674**

TABLE 29. *Division by Age of total registered Emigration and Immigration 1861—1910.*

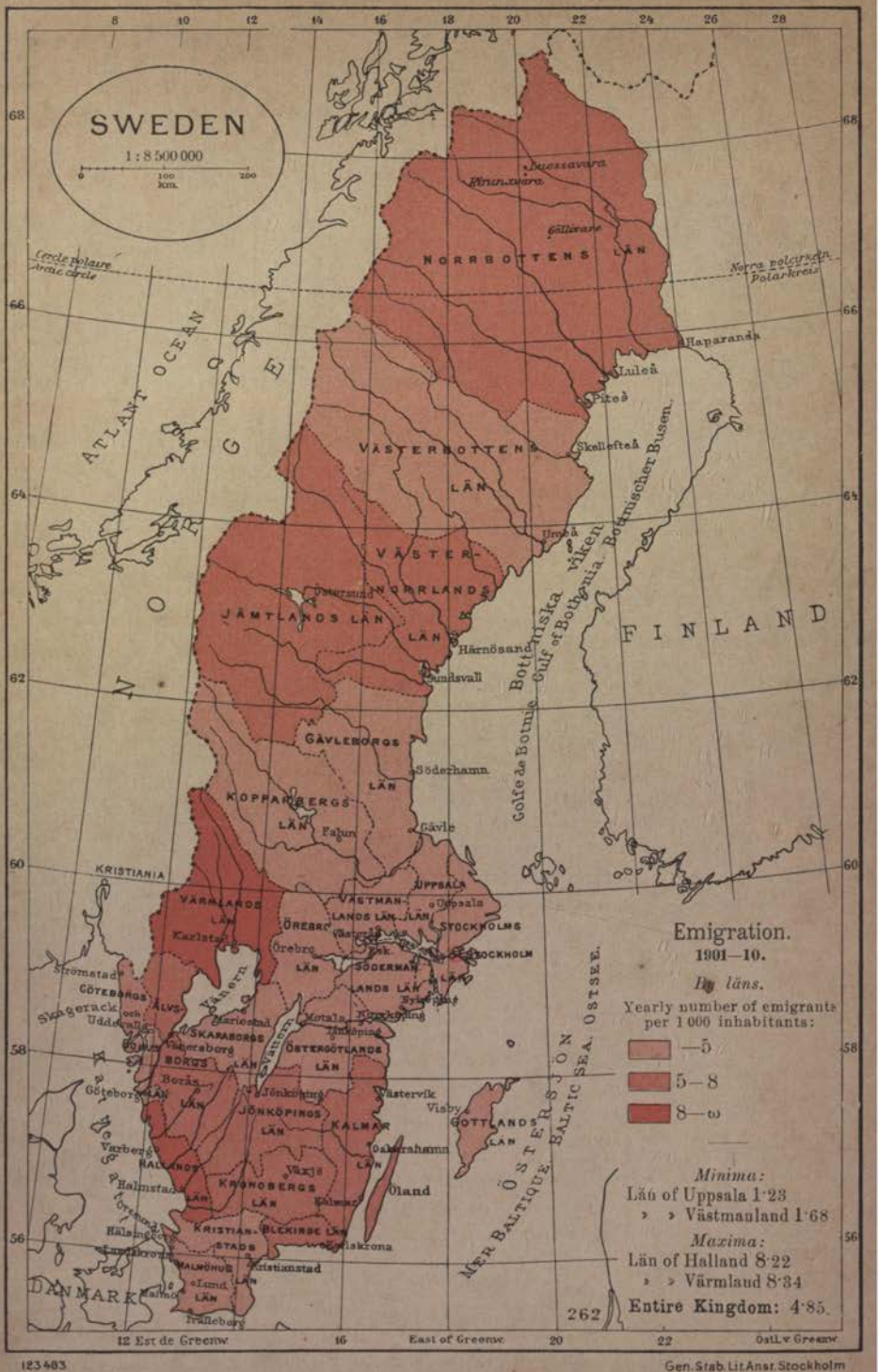
Ages	Emigrants			Immigrants			Excess of emigration		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
0—15 . .	**193 026**	97 533	95 493	**44 007**	22 128	21 879	**149 019**	75 405	73 614
15—20 . .	**223 995**	119 440	104 555	**16 290**	8 210	8 080	**207 705**	111 230	96 475
20—25 . .	**296 788**	170 785	126 003	**41 918**	22 404	19 514	**254 870**	148 381	106 489
25—30 . .	**180 806**	102 763	78 043	**45 722**	25 664	20 058	**135 084**	77 099	57 985
30—35 . .	**97 107**	54 650	42 457	**34 616**	20 897	13 719	**62 491**	33 753	28 738
35—40 . .	**56 761**	32 370	24 391	**21 668**	13 617	8 051	**35 093**	18 753	16 340
40—45 . .	**35 196**	20 132	15 064	**13 472**	8 956	4 516	**21 724**	11 176	10 548
45—50 . .	**23 734**	13 095	10 639	**8 430**	5 472	2 958	**15 304**	7 623	7 681
50—ω[1] .	**46 143**	21 151	24 992	**14 290**	8 595	5 695	**31 853**	12 556	19 297
Total	**1 153 556**	**631 919**	**521 637**	**240 413**	**135 943**	**104 470**	**913 143**	**495 976**	**417 167**

of this, again, is a relative diminution also in the number of births, so that the group 0—5 years also belongs to those whose relative numbers are declining. The age-groups 5—15 and 35—ω are better shielded, especially the age-group 50—ω. The effect of all this upon the composition of the population according to age is shown plainly by Table 15.

During the whole period 1851—1910, of those emigrants, for whom returns as to destination are made, about 965 000 persons have gone to trans-oceanic lands, the incomparably greatest proportion of whom have emigrated to the United States of America, whilst 205 000 persons have sought European countries. Of the latter number of emigrants, 66 000 have gone to Norway, 83 000 to Denmark, 18 000 to Finland and Russia, 27 000 to Germany, and only 11 000 to other European countries. The annual number of emigrants to our neighbouring countries remains almost constant at about 5 000 persons; of those who go to Norway and Denmark there return more than 50 %. The immigration from Finland is even greater than the emigration thither. On the contrary only 6 % of the emigrant Swedes have returned from the United States, though the percentage has considerably risen during recent years.

According to the census of 1910, the Swedish-born element of the population of the United States, was 665 183; those born in the U. S. of Swedish parents numbered 546 788. (Moreover, there were 152 244 persons of mixed Swedish and American parentage and 105 133 of mixed Swedish and "other foreign" parentage.) The American Swedes are mostly to be found in the West North Central division (in Minnesota 122 428, or 18·4 per cent of all of Swedish birth), the East North Central (Illinois 115 424) and also in the Middle Atlantic and New England states. The Swedish immigrants in a greater proportion than those of most other nations, have occupied themselves with farming, though the proportion of those occupied in manufactures is in the increase.

[1] Including a small number of unknown age.



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The emigrants from Sweden consist, for the most part, of workmen (agricultural and industrial, not professional) and domestics, but, of course, all classes of society are represented. The emigration, on a large scale, of unmarried women began a little later, but that, too, soon attained considerable dimensions.

Emigration from the North of Sweden, the inhabitants of which are to a great extent dependent on the timber-trade, has always been (except in the last decade) considerably lower than from the agricultural provinces of South Sweden.

Fight between John Ericsson's "Monitor" and the "Merrimac" in Hampton Roads. March 9, 1862.

The **effects** of this great emigration have undoubtedly extended to all classes of society. From an economic point of view, emigration proved a relief during the period when the younger age-groups were in excess, and when the opportunities for work were few, as was the case about 1880. But, at other periods, the loss of such an amount of working-power must have quite naturally been crippling, and it cannot be advantageous to the national economy of any country to bring up and educate at great cost young people who immediately afterwards proceed to utilize their training in a foreign land. Neither is it possible for the productions of a country to increase in any great degree, unless there be a simultaneous normal increase in the numbers of consumers among the people. And if we leave the

economic point of view for that of culture, we see that emigration has occasioned Sweden a most sensible loss, in carrying away a large proportion of the most intelligent and capable units of the population.

On the other hand, Sweden has already derived no small gain from the profitable intercourse with other nations — in the foremost place with the great republic on the other side of the Atlantic — to which emigration has given rise, and from which powerful impulses for good in several directions have already made themselves felt in the life of the country. Nor can it be said to be unimportant for our nation that, poor and small as it is, it thus shares, at least to the extent indicated, in the work of building up one of the great powers of the world, a country where many a gifted Swede finds that *ample scope for his activities* which the circumscribed conditions of his own land do not provide him with.

For America the Swedish element of her population will unquestionably be of great worth. It is true that the larger number of emigrants from Sweden are labourers, nearly always of the class with little means, and under such circumstances it can easily be understood that, *as yet*, they cannot hope to play any great rôle in the intellectual life of their new country. But the cultural work which has been so consistently carried on in Sweden for many centuries must, in any case, form a most valuable foundation for the future. And what other country has sent to America settlers whose families have, for *several generations*, enjoyed a general literate education? And the best features of the Swedish national character — industriousness, simplicity, obedience to law, integrity, and chivalrousness — have, too, won due acknowledgment in America, and must always form a valuable contribution to the new nation that is there growing up. The peculiarly well-developed bent of Swedish people for the study of natural science and for mechanical inventions has already won well-deserved triumphs in America; we recall only the names of John Ericsson and J. A. Dahlgren — to say nothing of a great many others.

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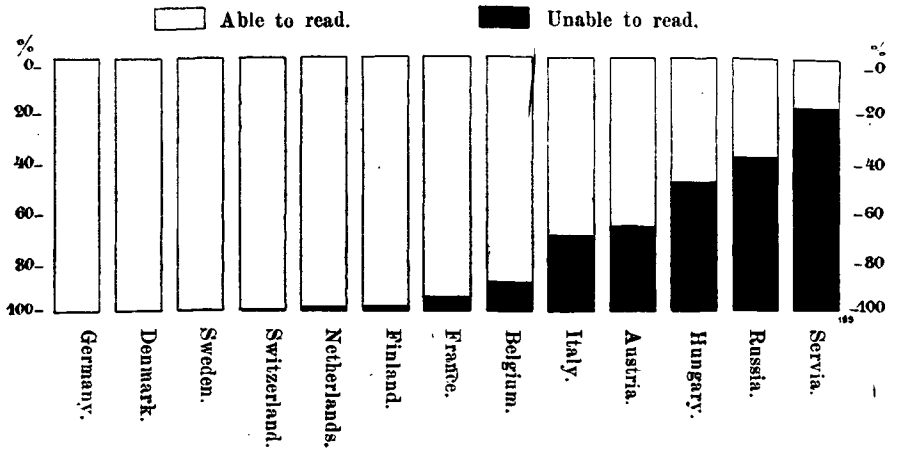
3. NATIONAL CHARACTER AND SOCIAL CONDITIONS.

The Swedish race is of pure Germanic origin, as is attested by the very *appearance* of the Swede. He is as a rule tall and well-built, has light hair, a broad high forehead, and blue or grey eyes. The formation of the skull is dolichocephalic — though brachycephalic skulls also occur — and orthognathous. (Cf. the map on p. 148).

The Swedes are one of the *tallest* nations in the world. Indeed it is possible that they rank second to none of the civilized nations in this regard. The most recent statistics (drawn up by J. Vilhelm Hultkranz) show the average height of a male Swede between the ages of thirty and thirty-five to be 172·5 centimeters.

Percentage of Illiteracy among the Conscripts.
(About the beginning of the 20th century.)



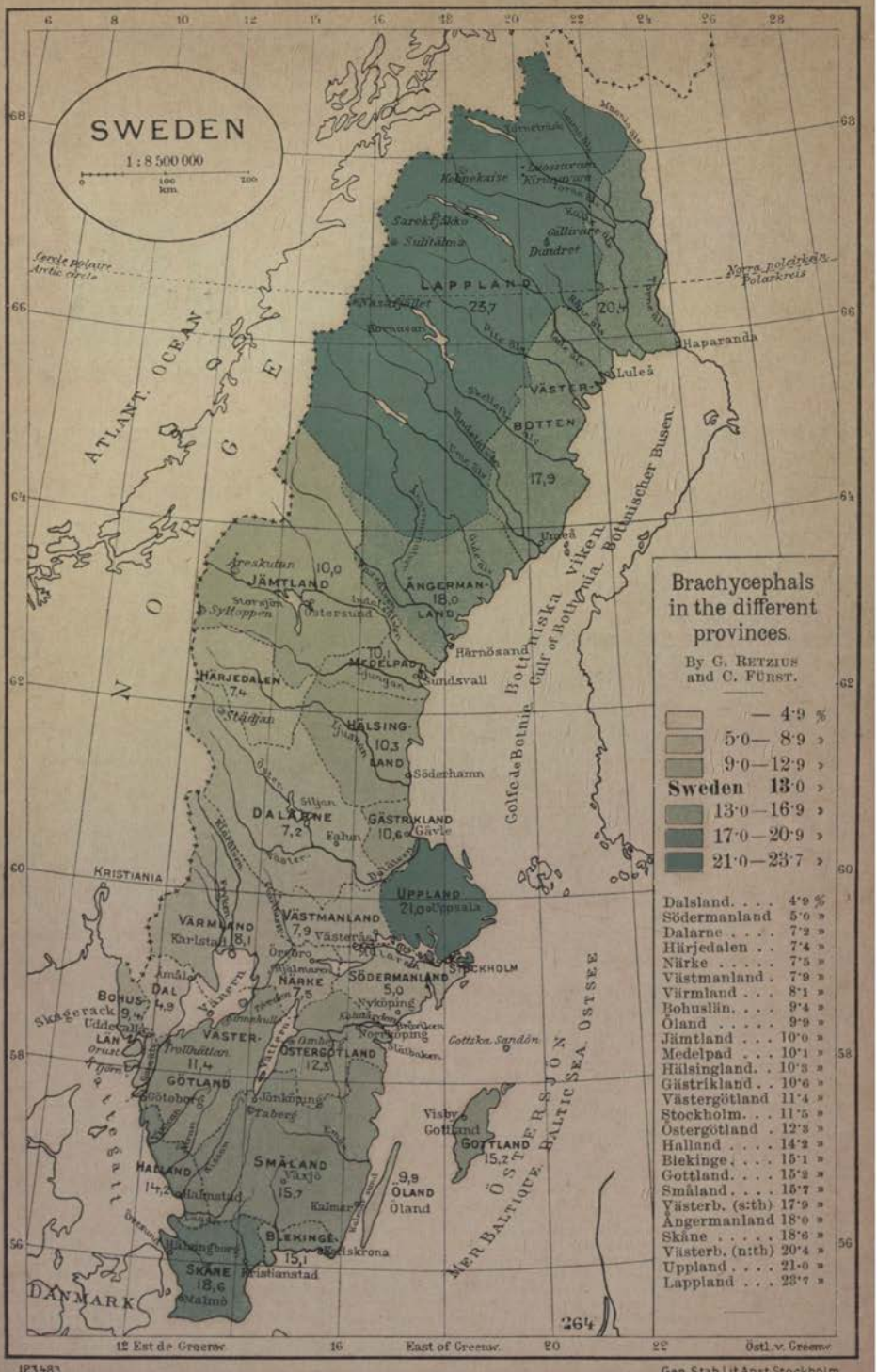
It is an interesting fact that, as our *military statistics* incontestably prove, there has been a considerable increase in the height of Swedes during the last half of the 19th century, as well as during the first decade of the 20th.

The average height of a conscript accepted for military service of the age of twenty years, works out for the five-year periods 1841—45 to 1866—70 and 1906—10 in order at: 167·0, 167·1, 167·5, 167·7, 168·2, 169·3, and 171·9, centimeters; that is to say, an increase of no less than 5 centimeters.

The variations of height in different parts of Sweden are shown, on the authority of *Gustaf Retzius* and *Carl M. Fürst* by the map on p. 151. Tallest are the inhabitants of Härjedalen and Hälsingland, of Gottland and of Bohuslän. Another interesting circumstance is that (on the authority of *A. Key*,) the average height of boys and girls in the Swedish grammar schools is *greater* than that of the population at large at the same ages. Key's figures, both with regard to height and to weight, show very favourable results for Sweden as compared with other countries; this applies to girls as well as boys.

The figures given above with reference to the height of conscripts plainly denote that physical development has *improved* among Swedes during the period given. The figures for those who have been rejected as *unfit for military service* tell in the same direction. The percentage of these to the whole, for the six decades 1831—40 to 1881—90 and for the period 1901—10 in order are: 35·7, 36·4, 35·7, 27·8, 23·6, 20·2, and 20·1; that is to say, a considerable improvement as a whole. Compared with figures in other countries, the percentage of rejections is unusually low. Here, too, may be recalled the extraordinarily favourable position in which Sweden stands with regard to mortality, and the very marked way in which the death-rate has declined, especially during the lost few decades.

With regard to the *Dissemination of Knowledge among the People* it is doubtless pretty generally known that the Scandinavian nations occupy a very prominent position. The art of reading has been general in Sweden *for many generations;* and hence a certain intellectual maturity has been attained by the people at large, forming a very sound foundation for further educational improvement. On the other hand, one at times perhaps misses that youthful enthusiasm for the acquirement of knowledge often



Brachycephals in the different provinces.

By G. RETZIUS and C. FÜRST.

— 4·9 %	
5·0 — 8·9	»
9·0 — 12·9	»
Sweden	**13·0**
13·0 — 16·9	»
17·0 — 20·9	»
21·0 — 23·7	»

Dalsland . . .	4·9 %
Södermanland	5·0 »
Dalarne	7·2 »
Härjedalen . .	7·4 »
Närke	7·5 »
Västmanland .	7·9 »
Värmland . . .	8·1 »
Bohuslän. . . .	9·4 »
Öland	9·9 »
Jämtland . . .	10·0 »
Medelpad . . .	10·1 »
Hälsingland. . .	10·3 »
Gästrikland . .	10·6 »
Västergötland	11·4 »
Stockholm. . .	11·5 »
Östergötland .	12·3 »
Halland	14·2 »
Blekinge	15·1 »
Gottland. . . .	15·2 »
Småland. . . .	15·7 »
Västerb. (s:th)	17·9 »
Ångermanland	18·0 »
Skåne	18·6 »
Västerb. (n:th)	20·4 »
Uppland	21·0 »
Lappland . . .	23·7 »

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met with in nations where the great masses have only recently begun to enjoy the advantages of book-learning.

Generations of Swedes have thus received the educational advantages of reading. On the other hand, it should be borne in mind that the extensive area of the country, the sparseness of the population, and, in many parts, their poverty have debarred the Swedish people from many opportunities of mental improvement which the school of life affords in more wealthy and more thickly populated countries. Hence the intellectual development of the Swede appears somewhat irregular, and does not assert itself sufficiently in practical life. A certain coarseness of mind is, moreover, still to be found in many places as a bequest from the incessant wars of bygone ages — and perhaps also from the widespread prevalence of drunkenness which marked the earlier part of the 19th century.

Swedes have always been distinguished for *soldierlike* qualities and it may safely be affirmed, without exaggeration, that the history of Sweden's wars is one of the most brilliant chapters in the history of the world. There are many signs which show that these qualities still subsist, in spite of a century of peace. Scarcely a war is waged in any part of the world, even in our own times, but that a considerable number of Swedes volunteer for service, and these men seldom fail to reflect credit on their country.

Think of war what we will, it cannot be denied that it summons forth the mightiest forces in the human soul, and abundantly reveals the true character of a people. As for the Swedes, it brings out clearly the *brighter* aspects of their nature, undaunted valour, the courage of endurance, self-sacrifice, and chivalry — the virtues of the open battle-field. Dark fanaticism (such as impelled the citizens of Numantia or Zaragoza to bury themselves beneath the ruins of their native cities) is foreign to the Swedish temperament. So also is gloomy hate: the Swede is always merciful and conciliatory towards a vanquished foe — often far more so than is consonant with his own advantage.

Humanity is thus a salient trait in the Swedish character, as is evinced by the way in which Swedes have in past times treated other nations.

There are not many instances on record, perhaps none at all, of one nation treating another as Sweden treated Finland; how out of the country she had conquered she formed a sister nation with equal rights to her own, bestowed on her a full share in her civilization, and literally *educated* her, as an elder sister educates a younger — a thing almost unparalleled among nations. And wherever Swedish rule has been exercised — as in the Baltic provinces, in Pommern, and elsewhere — it has left behind it pleasant memories, as of a rule of justice and humanity, which has never attempted to despoil and *oppress*, but as far as possible, to develop and raise its subject peoples. A characteristic example is the only colony founded by Swedes in foreign parts, namely "New Sweden" in Delaware. The Swedes were the only European nation that succeeded in living in perfect concord with the native Indians and in all their dealings treated them with justice and humanity: hence the colonists of New Sweden have always been known among the natives as "our white *brothers*."

The Swedes also exercise at home this noble justice, which is one of the firmest pillars of society and often palliates deficiencies in its organization. Ignorance of this fact often leads to a more unfavourable conception of the social condition of Sweden, both in ancient and modern times, than is really warranted by the facts.

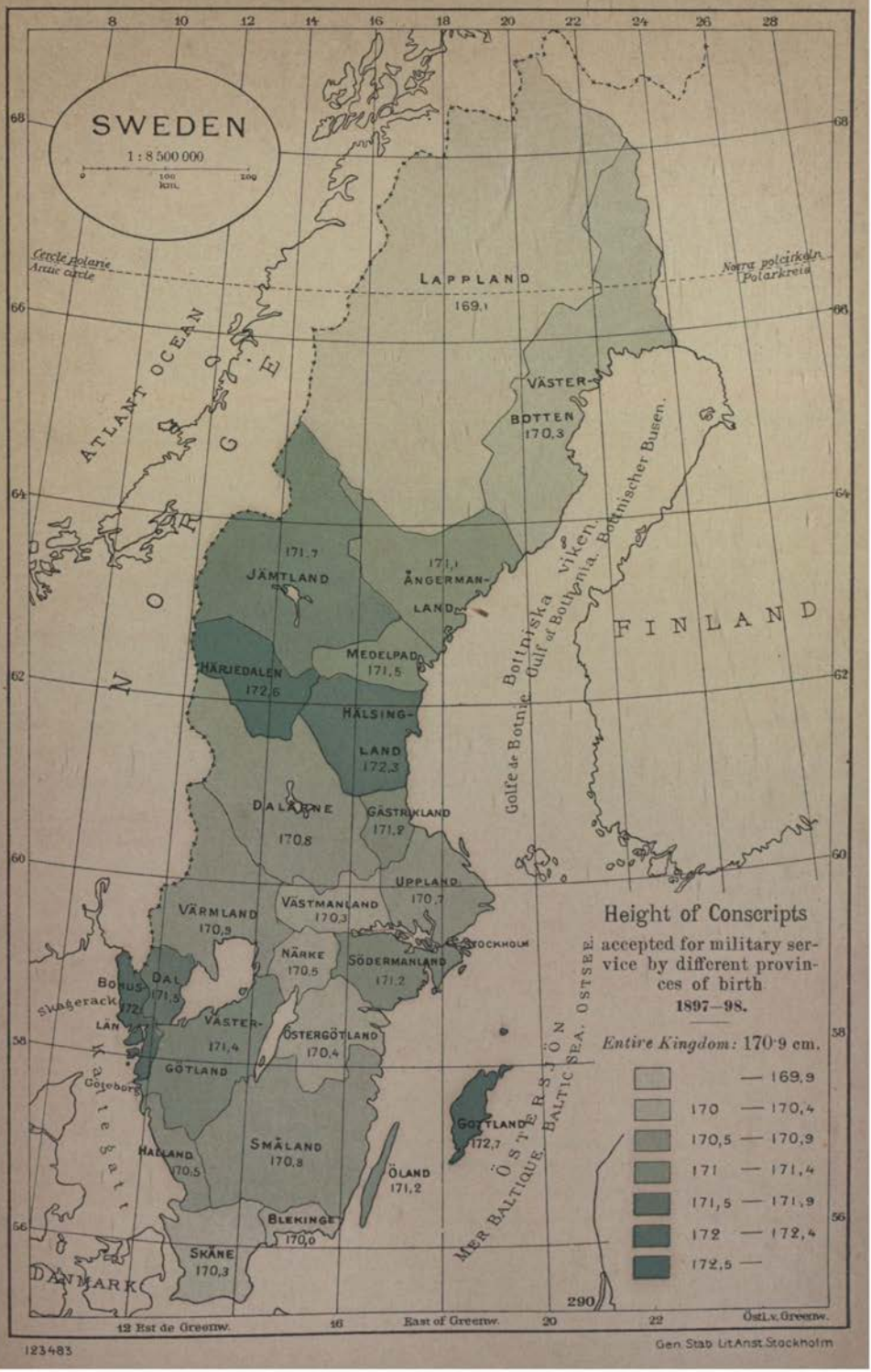
Another aspect of this humanity is the decided *aversion* shown by Swedes *to all kinds of litigiousness.* In no country is so little sympathy shown to insistence on more legal rights, as opposed to what is equitable and fair.

A characteristic trait of the Swedish character is a genius for *organization.* To this is undoubtedly to be ascribed the stability which the structure of Swedish society has exhibited for generations. Joined to this is a rare capacity for obeying without sacrificing personal dignity, and an equally rare capacity for commanding without arrogance and overbearing. There are many young Swedish engineers in distant lands who have hundreds or thousands of workpeople under them, and who by dint of quiet tact and a judicious combination of firmness and moderation, obtain from their subordinates that willing obedience which smooths the relations between employer and employed and produces work of the best quality.

Swedes are known for their *courtesy,* their willingness to oblige, and their hospitality. On great occasions the Swede loves magnificience and pomp, and is rather inclined to lapse into rhetoric. It must be confessed that he is often disposed to be theatrical, though only on the surface, and on appropriate occasions. When the call arises, we see him quietly setting himself to do his duty, and ready to sacrifice himself for the good of his country: the whole course of Swedish history proves this.

The most deeply-seated feature of the Swedish character, the key to all the rest, is the passionate *love of nature.* It is this that has given birth to Swedens great scientists, her inventors, and her explorers; it is this that has produced lyric poets, her folk-songs, her singers; it is this that has given its peculiar flight to Swedish *fancy.* But this feeling for nature has diverted attention from psychological spheres; hence the nature-loving Swede is too often a poor judge of character. This explains why Sweden can boast of eminent scienties and engineers, but not of great diplomatists or merchants; why she possesses a rich lyric literature, but scarcely any dramatic.

If the Swede loves nature, it is because nature in Sweden is lovable. Swedish scenery is not majestically imposing, like that of Norway; but then it has not the repelling and owerpowering character of the Norwegian landscape; nor is it enervating, like that of more fertile countries, nor forbidding, like the desert and the steppe: in its peculiar combination of bracing vigour and soft idyllic loveliness, it is, in the strictest sense of the word, *inviting.* This feeling is shared by all: less conscious no doubt, among the uneducated, but present there all the same. This ardent attachment to nature, which in certain cases leads to license and coarseness, is on the other hand, the vital source of the imperishable health and vigour of the Swedish race; a health and vigour which over and over again has stood the test of struggle and stress, and even defied the wanton recklessness with which the Swede often plays havoc with the energies of



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body and soul. Light-hearted *recklessness* is, in fact, one of the greatest weaknesses in the Swedish character. On the other hand, it cannot be denied that peoples so constituted often display a greater vitality than nations of the cautious, thrifty type.

Sweden is the most ancient kingdom in Europe, and has never, as far as history records, been subjected to foreign dominion; moreover, owing her remote position, she has kept tolerably free from foreign influences. Sweden has known neither feudalism nor serfdom; her legislation has been but slightly affected by Roman law, she has been less deeply influenced than other nations by the Roman Catholic church, and she has had but a brief experience of absolute monarchy. Further, as the Swedish race has preserved its Aryan descent purer than any other, one might naturally expect to discover in Sweden an extremely *original* culture — though possibly accompanied by that stagnation to which isolated nations are peculiarly liable.

A closer acquintance with the Swedish nation will modify these notions. The originality certainly exists, but not quite so markedly as one might have been led to expect, at any rate not on the surface. On the other hand, the stagnation does not exist at all — though there is a certain conservatism which Sweden has in common with England.

To explain these facts, it is necessary to understand a certain trait inherent in the Swedish character: *the keen interest in all things foreign.* This interest, which has always inclined the Swedes to overestimate things from abroad, and underestimate things of their own, has often proved fatal to them and checked the full growth of the national individuality. But, on the other hand, this keen interest in all things human has saved the Swedes from sticking fast in ruts, and has warded off the dangers of isolation.

Sweden of our days may thus be likened to a man whose powers are not indeed yet fully matured, but who, as a whole, has managed to preserve that mental and physical health which promises a long and prosperous future.

Social Classes and Distinctions.

The history of Sweden from a *social point of view* presents features of great interest, inasmuch as it is the record of an evolution upon an exclusively Teutonic basis, unaffected by the spirit of Roman culture or the theories of Roman law, which set so evident an impress on the continent of Europe as a whole.

The oldest Swedish community knew of no other legal distinction among its members than that of *thralls* and *freemen.* Yet, even at that time, there existed wealthy and powerful families with hereditary influence — a germ, consequently, from which a nobility might develop. Subsequently to the introduction of Christianity, yet another aristocracy arose in the shape of the Catholic priesthood, with its claims to a legally sanctioned status of its own. During the progress of the

13th century the social conditions became crystallized. The ancient condition of thraldom ceased to exist, though it was not till the beginning of the following century that it was entirely abolished. The new *Estates*, on the other hand, were now recognized by law. The organization of the *Catholic Church* was brought to a definite conclusion by the Synod of Skänninge in 1248, and from that time forth, its officers and servants formed a privileged class of the community. Some forty years later, a legally acknowledged *temporal aristocracy* came into being, inasmuch as every man who engaged to serve the realm at his own expense as a horse-soldier, was declared exempt from all the ordinary taxes. It was thus actually possible for any one who wished to become a member of this class, and an aristocracy of service, rather than of birth, was thereby constituted. The peculiar conditions of that age, however, had as a result that birth, wealth, and service under the Crown were generally enjoyed by the same individuals, and, on the whole, the hereditary nobility may be said to have been already established. At about the same period, the *Cities* began to detach themselves as distinct communities, with constitutions of their own, and their responsible inhabitants, *burgesses*, became a class for themselves. The bulk of the rest of the population, *peasant* proprietors, constituted the fourth estate.

In the 14th century — a time of great unrest and frequently of general lawlessness — the aristocracy arrogated virtually all the power in the body social, and endeavoured to adapt to Sweden, too, the contemporary principles of feudalism. The Swedish *Peasantry*, however, averted this threatened danger by rising in arms (1434), under the leadership of Engelbrekt, to oppose King Eric XIII. The vigorous national movement that succeeded this effort and lasted throughout the protracted Union wars with Denmark, raised the Swedish peasantry to a position of importance, to which the history of that time can provide no parallel, not even in Switzerland, whose peasants, it is true, fought for their freedom, but did not exercise any such influence on the affairs of the country. In Sweden, however, the peasantry, in conjunction with the patriotic section of the nobility, took an active part in the struggle for the independence of their country, as they did also in the internal struggles. A check was given, it is true, by Gustavus Vasa, to the independence which sprang up among the peasantry during these restless days, but their legal and social status was secured once for all. As the *Swedish Diet* (Riksdag) was at this very time becoming more definitively established, it was a matter of course that the peasant class should be represented in it.

The reform of the Church carried out by Gustavus Vasa, and the forfeiture of the lands belonging to the Church overthrew *the ecclesiastical aristocracy*. The new Protestant clergy, too, received for various privileges, and became one of the four Estates into which the Riksdag was divided; their wealth and influence were, however, no longer what they once had been, and in succeeding centuries they always sided with the lower classes against the *nobility*.

The Estate of the Nobles, which, during the internal strife that culminated in the Stockholm "bloodbath" (1520), was materially weakened and kept down so long as the vigerous Gustavus Vasa lived, obtained all the greater influence while the members of his house were subsequently fighting for the crown. The dignities of Count and Baron were established, and fresh privileges were conferred (1561, 1569, and 1612), by which they were freed from the obligation of knight service. Nobility now became a mark of royal favour, and the estate of nobles became a closed, hereditary caste, with great legal and actual privileges. But at the same time, the noble was required to take a real share in the government of the Kingdom and in the great tasks imposed by Sweden's entry into the arena of European politics. This was the Nobility's Epoch of Greatness, at the same time as it was that of the Kingdom. We will only mention here the world-

renowned name of Axel Oxenstierna, the — in so many respects — far-seeing statesman, Johan Gyllenstierna, and the great creator of Finland, Per Brahe; on the whole, at this time, everything that was great and brilliant in Sweden belonged to the Estate of Nobles, and a natural explanation of this fact is the exceedingly industrious creation of new titles. On the whole, too, it must be confessed that there is no country whose nobility possesses such a splendid history as did that of Sweden at this time — so abounding in real services and comparatively free from encroachments at the expense of the other classes of the community.

The latter circumstance is not, however, to be understood as implying that the position thus attained by the nobility in the 17th century was not greatly burdensome to the other Estates. More particularly did the immunity they continued to enjoy from the majority of the ordinary taxes lay a heavy burden on the rest of the population. Most seriously threatened was the peasantry, who, as three centuries before, were brought to the verge of social and economic ruin. On this occasion they were rescued by the King and the Riksdag (in which assembly the Nobles were opposed by the Clergy, the Burghers, and the Peasants). After a series of struggles, extending over more than thirty years (1650—82), Charles XI at length succeeded in getting a resolution passed for the *forfeiture to the Crown* of the great numbers of "*Crown Lands*" that had been given away or leased to the nobility, more especially by Queen Christina, and this "Reduction" was put into practice by the King on such a large scale that it forms an epoch in the record of the ownership of the land in Sweden. The major part of the forfeited estates later passed by purchase into the hands of peasant proprietors, and that class thereby gained so firm an economic position that the effects of it can be very plainly traced in Swedish political life of the present day. — With regard to the *nobility*, who, during their period of greatness, had spilt up into two markedly distinct groups — the higher and the lower aristocracy — the great forfeiture of their landed possessions left them a very numerous but comparatively impoverished class, and they were fain, for the most part, to procure a livelihood by filling posts in the public service.

Charles XI's great Reduction did not do away with the quarrels between the Estates in Sweden. In the 18th century they again flamed up over the privileges enjoyed by the nobility, more especially their exclusive right to the higher government appointments and to the possession of privileged land. (It is to be noted that the ancient immunity from certain taxes was now attached to the land as such.) Once again a social reform was effected, this time by Gustavus III (1789), who, at the price of abolishing in large measure the above-mentioned privileges enjoyed by the nobility, purchased the acquiescence of the other Estates to the introduction of a short-lived absolutism. The privileges that still remained to them the nobility voluntarily relinquished after the political revolution of 1809.

Thus the Estates had lost their legal and social importance, though they survived, none the less, as political units until the year 1865, when the time-honoured division of the Riksdag into four Estates was exchanged for the present division into two chambers, which are elected on the principle of collective voting. A titled nobility still exists, it is true, but as a corporate body it is only concerned with the administration of joint funds, and additions to its ranks have really ceased. In 1892, moreover, the last relic of the ancient social conditions, the exemption from taxes, mentioned above as attaching to the possessors of certain lands, was also withdrawn. The rivalry between the "Estates" that had prevailed for centuries, was thus brought to an end, and a new epoch was inaugurated. The struggle is no longer between "Estates", but between "Classes".

The position of politics in Sweden since 1866, when the method of representation was altered, has been quite unique. The class of *peasent proprietors* has had a *preponderating share of political power.* The most special feature is that the peasantry in Sweden have exercised this power themselves and have not been represented by men chosen from other classes of the community. The number of peasants who have seats in the Swedish Riksdag is upwards of 100 — a state of things that has no parallel, save in Norway and Denmark; and even in those countries, not to so large an extent. The predominant position which the peasantry assumed in the Riksdag after 1866, has, however, suffered considerably, by reason of the latest representation reform of 1909. Manual labourers, the part of the population without property, which heretofore had acquired only insignificant representation in the Second Chamber, have, by the general franchise and the proportional method of election, obtained complete representation there, and at the same time not an insignificant number of seats in the First Chamber. As the communal franchise has at the same time been much levelled, the Swedish community has been largely democratized politically. This naturally causes a powerful reaction on social conditions and on the levelling process, without, however, entailing the abolition of class-differences here, any more than in other civilized countries.

Strained relations between the different social classes in Sweden have, however, always been modified by that humanity which, as has been frequently pointed out, is a characteristic trait of the Swedes. Hence it is that all the dissensions and infringements of others' rights that occur in the course of historical life have not been so violent in Sweden as elsewhere. Yet another circumstance, contributing in its measure to this state of things, is that to *rise in the social scale* is perhaps nowhere so easy or frequent as in Sweden, which fact may be attributed principally to higher education being practically gratuitous and freely open to all. Also, of the pupils at secondary schools, no less than 20 to 25 % are the sons of peasant farmers or artisans, and about one-half of the total number belong, in general, to the so-called lower classes of the community. A great number of the finest men in Sweden can thus trace their origin back to the lower classes of the population, directly or with but one or two intervening generations; the "upper" and "lower" classes are consequently strongly united by the very closest of ties, namely that of blood. The signifiance of this will be apparent, if the reader reflects on the striking contrast in many other countries, where the difference between the higher and the lower classes is far greater.

But this has not prevented class distinctions, in Sweden as elsewhere, from being artificially accentuated of late by the so-called *labour movement.* The quite natural endeavour of manual labourers to improve their condition, not only from a political, but above all from an economic and social point of view, has led, under the influence of socialistic theories and trades unionism imported from abroad, to a widening of the gulf between

them and the other classes of the community. Class warfare and its immediate expression, general strikes, have consequently been adopted to fulfil aspirations which are so extreme that they must be labelled as purely Utopian.

The class-system ultimately rests on the difference between work with the head and that with the hands, that is between the control and the execution of work, and for that reason civilization cannot dispense with it. Consequently, the inequalities of income and capital, too, which necessarily result from the specified distinctions, cannot be obliterated, even if development can and ought to imply a more equal division than is the case at present. The main point is that the condition of the workers is improved — and this object is uninterruptedly being achieved, as much by the increased output of national labour as by social legislation — because then economic differences are automatically reduced. However, Sweden is, in this respect, better situated than the greater civilized countries, with their crowded city populations on the one hand, and their millionaires on the other.

Of the **distribution of capital and income** in Sweden we still know but little, although general taxation has for a long time provided a source of knowledge on the subject, and the new taxes on income and capital, with the obligation of declaring them (since 1910), have opened up new possibilities for acquiring such knowledge. There is certainly no lack of calculations concerning the distribution of capital, nor of returns as to incomes. But, for different reasons, these only render incomplete information about the economic basis of the social structure of the community, and even about the various economic conditions.

On the whole, our knowledge of the *distribution of wealth* is, in this respect, not very instructive. For instance, there are many who, in spite of having no property other than clothing and personal chattels, possess considerable incomes and are not only well-to-do, but even rich. Even the grouping together of all kinds of values — consumption-values and production-values — in one and the same computation of the wealth of the country (though quite needful for statistical purposes) renders these calculations less useful for throwing light on the economic position of the various strata of society. For, with regard to absolute wealth, this depends far more on the amount of wealth being actively employed as an economic agent of production than on consumption. Therefore, returns that only deal with the distribution of the agents of production are of greater importance for an estimate of the economic basis of the social classes, than an undifferentiated account of the distribution of the entire property of the nation. For this reason we refrain from introducing here the calculations in question, in which, moreover, many uncertain factors are still included.

However, in order to avoid entire omission of this aspect of the social conditions in Sweden, we will advert to the *distribution of land,* the principal agent of production, and the information that agricultural statistics afford.

According to these, the total of "agricultural divisions" in 1911 was 359 871, to which are added 138 677 "crofters' holdings and other properties". The former were distributed according to ownership and tenants, as follows:

	Owners	Occupiers
at most 2 hectares	79 738	9 229
2— 20 »	199 912	30 565
20—100 »	22 677	10 512
above 100 »	2 046	1 117

It is true that the idea of the distribution of the land afforded by these figures is by no means complete, inasmuch as they only relate to agricultural land, and, further, since they afford no information as to the proportion of the total area of the country that is collectively occupied by the land included in these various groups. Nevertheless, it provides a general idea, which, for want of a better, may be given here.

For the distribution of land suitable for cultivation is, from the social point of view, the most important subject for consideration. For the question before us, it is of less moment to observe how the immense stretches of forest and unserviceable land are distributed, especially in the northern districts of the country which are scarcely suited to agriculture. Even the lack of returns on the total area of the various groups constitutes no insuperable barrier, when one knows that a farm cannot advantageously cover more than, say, 400 hectares. The 3 163 greater estates, therefore, cannot occupy a very large part of the area of agricultural land under consideration. Calculations made for the year 1904 (Statistisk tidskrift, vol. 2, 1906) for the total areas included in the different groups strengthens this assumption. According to these calculations the area is distributed among properties as follows:

—10 hectares	25·36 %
10—50 »	50·45 »
50—ω »	23·69 »

Finally, considering that a farm in Sweden (above all in the central and more northerly districts), must not be too small if it is to provide for a family, the conclusion is arrived at that this farmed land is distributed among numerous occupiers. It is well known, too, that in many tracts no large estates are to be found, but only inconsiderable farms, and sometimes nothing but small plots, as is mostly the case in Dalarne. Therefore, it can be safely asserted that, even now, it is the rule in Sweden that the distribution of property, as regards farmland, has proceeded rather far. And this tendency is strengthened by reason of the movement to provide small freeholds and small holdings, which accelerates the dismemberment of the older estates, and by the reclamation of swamps and fens.

Passing from property to income, which possesses the greatest importance in the matter under consideration, we have to premise here, also, that the returns bearing upon the *distribution of incomes* which have been collected during late years leave much to be desired as a means of guidance. The official reports on taxation, for instance, suffer from a fault which largely detracts from their value just in the matter we are dealing with. Whereas the larger incomes are generally accounted for with accuracy, the smaller ones, notably those of farmers, are given as far smaller than they really are. A remarkable proof of this is furnished by the figures of

1908 (incomes of 1907) returned to the Old Age Insurance Committee. In that return a year's total income is given at 1 247 960 000 kronor, shared by 1 047 530 individuals. One group is included under "Private persons untaxed for income, as they are taxed only on landed property", 300 668 individuals with a collective income of only 73 845 000 kronor. And not less than 277 523 in this group are returned as possessing incomes of under 600 kronor and all together only 50 594 000 kronor: the group in question, nevertheless, includes, the bulk of the agriculturists in the country. It is obvious that the income accounted for here is many times less than what is actually the case. At the same time, we must recollect that servants, both male and female, are generally not recorded at all by the taxation authorities, though enjoying incomes of 500 kronor or over. With such facts confronting us, it is better to postpone any attempt at making a report on this subject, till such time as the material for statistics more nearly corresponds to the actual facts. Incomplete and defective statistics, although a source of invaluable information for the trained mind, become for the general public only a source of incorrect opinions and false inferences.

Although statistics of this kind for the present afford no exact information on the prevailing conditions of capital and income, yet we do not lack significant indications in the matter, or, more rightly, in the direction in which development is proceeding in this department. This makes itself felt, of course, in definite *symptoms* incapable of being misunderstood. If one may trust the figures of an earlier date, the progress towards prosperity made a remarkable advance in Sweden as early as the first half of the nineteenth century. In each of the following classifications, the percentage is given for the entire number of households.

Households possessing:	In 1805	In 1840	In 1855
More than enough to live upon	2·96	9·35	13·75
Just enough	25·74	62·74	67·05
Less than enough	54·81	22·28	15·93
No means of support, except charity	16·49	5·63	3·27
Total	100·00	100·00	100·00

Yet it was not until after the 'sixties that the great forward economic movement began in Sweden, and, in connection with it, the indications of increasing prosperity became clearer. First among these indications should be mentioned the improvement in the conditions of life among all classes of the community. Amelioration in this particular, and the rise in the standard of living, are facts which anyone of mature age has been able to observe in his own life-time. It is observable, too, from tangible statistics, which show increased consumption of all the necessaries of life, not only inevitable essentials such as bread, meat, clothing, and so forth, but also the less needful, e. g. sugar, of which the annual average per head in 1870—74 was 6·59 kilogrammes, and in 1905—09 25·55. It is true that the cost of sugar, during the period mentioned, has become considerably

lower (from 103 öre per kg to about 58, for refined sugar) but the consumption of this article has gone up very much more, and this witnesses to a greatly increased power of purchase.

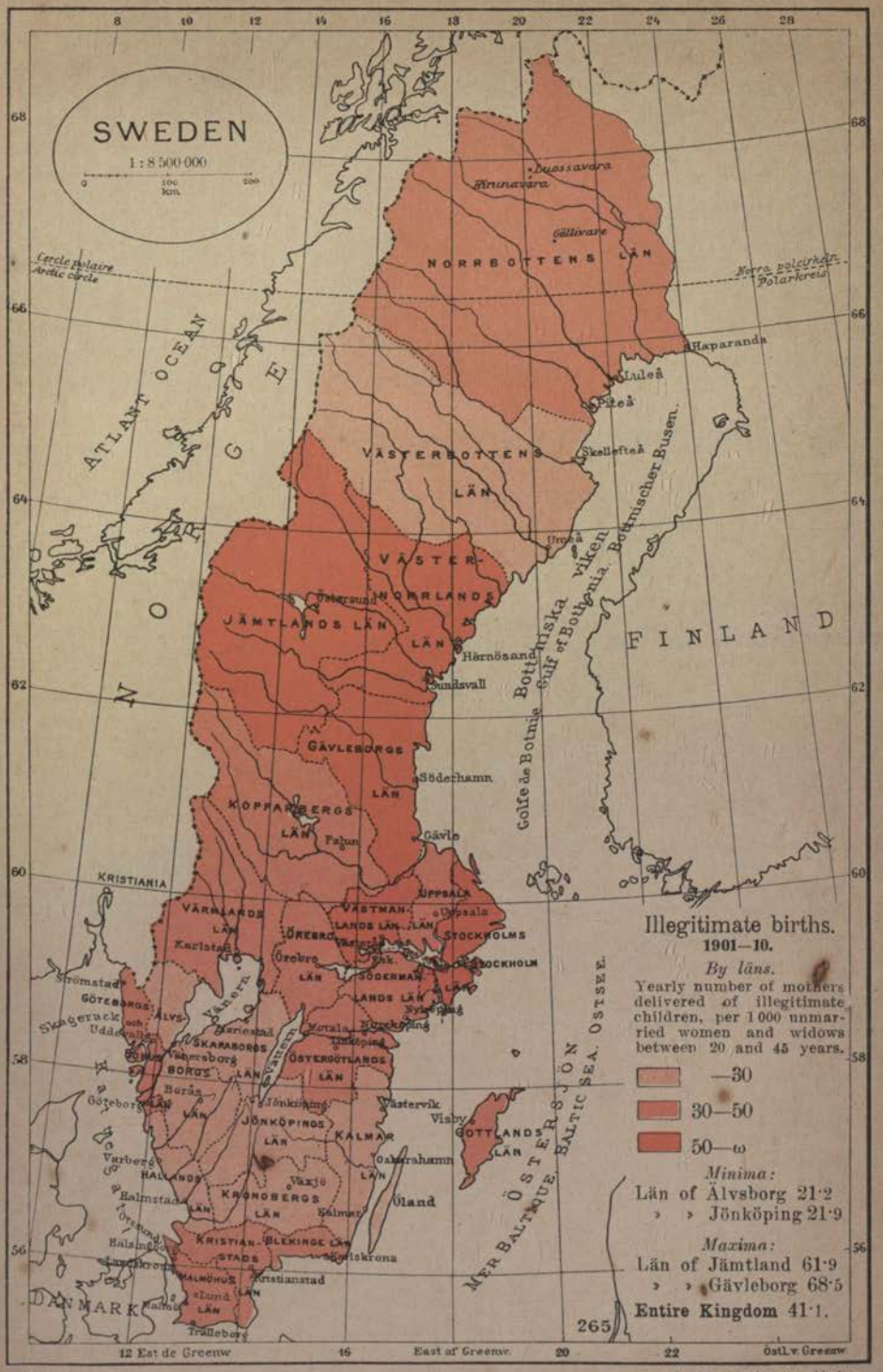
Another symptom of general prosperity, of which an account is given in another section, consists of the death-rate among children: here the marked diminution in Sweden is possibly the most reliable evidence of improved economic conditions among all ranks of its inhabitants. We can, therefore, even without exact details, affirm that economic development has led to a general increase of prosperity. The rapid rise in the income of the nation during the last generation has been general through all classes. No doubt can be entertained of that. Whether simultaneously distribution, especially of capital, has become more equal now than before cannot be determined from the material at our disposal. But that is a minor concern from the social point of view. Economic equality, in our own day and in a rapidly developing country, is an impossibility, and would, if it could be achieved, cut short that development at a blow. It is also a mistake to think that inequalities in capital and income nowadays furnish any obstacle against social equality. The levelling of class distinctions comes to pass irrespectively of economic conditions, because all are equal in political privileges and in general public education. More important than economic equality is to secure that manual labourers are well situated and that every normally equipped individual can, through industry and orderliness, reach an assured position of comfort. And this is now more generally the case in Sweden.

Moral conditions.

When social science wishes to examine into the moral condition of a people, it must, as is well known, content itself to a very great extent with negative indications. Omitting the subject of crime and phenomena connected with the temperance question — matters that will be dealt with in special sections in the following pages — some facts will be given here concerning the number of illegitimate births, as well as some other data derived from vital or medical statistics, which will serve to throw light upon public and private morals, in the more restricted meaning of this word.

The frequency of **illegitimate births,** (which is certainly not the only or even the safest measure of the moral condition of a nation, but which, in any case, illustrates *one* side of it), forms on the whole, one of the dark sides of the social life of Sweden, even though those conditions are far from being as unfavourable as people often make out.

The frequency of illegitimate births is usually expressed as a percentage of the total number of births. If viewed from the point of view of the morality of a nation, this frequency, however, ought rather to be compared with the number of unmarried women in child-bearing age.


SWEDEN
1 : 8 500 000
0 100 200 km
Cercle polaire
Arctic circle
Norra polcirkeln
Polarkreis
NORRBOTTENS LÄN
VÄSTERBOTTENS LÄN
VÄSTER-NORRLANDS LÄN
JÄMTLANDS LÄN
GÄVLEBORGS LÄN
KOPPARBERGS LÄN
VÄRMLANDS LÄN
ÖREBRO LÄN
VÄSTMANLANDS LÄN
UPPSALA LÄN
STOCKHOLMS LÄN
STOCKHOLM
SÖDERMANLANDS LÄN
ÖSTERGÖTLANDS LÄN
SKARABORGS LÄN
ÄLVSBORGS LÄN
GÖTEBORGS OCH BOHUS LÄN
HALLANDS LÄN
JÖNKÖPINGS LÄN
KRONOBERGS LÄN
KALMAR LÄN
GOTTLANDS LÄN
BLEKINGE LÄN
KRISTIANSTADS LÄN
MALMÖHUS LÄN
Haparanda
Luleå
Piteå
Skellefteå
Umeå
Härnösand
Sundsvall
Söderhamn
Gävle
Falun
Karlstad
Örebro
Strömstad
Göteborg
Borås
Jönköping
Växjö
Kalmar
Oskarshamn
Visby
Västervik
Karlskrona
Kristianstad
Lund
Trelleborg
Hernösand
Uddevalla
Vänersborg
Varberg
Halmstad
Kristianstads
Malmöhus
Kristianstad
Ystad
Landskrona
Malmö
Eskilstuna
Nyköping
Motala
Mariestad
Skara
Lidköping
Gullivare
Kiruna
Luossavara
Kiirunavara
ATLANTIC OCEAN
NORGE
FINLAND
DANMARK
KRISTIANIA
Bottniska viken
Gulf of Bothnia
Bottnischer Busen
Golfe de Bothnie
Mer Baltique
Baltic Sea
Ostsee
Vänern
Vättern
Mälaren
Hjälmaren
Illegitimate births.
1901—10.
By läns.
Yearly number of mothers delivered of illegitimate children, per 1 000 unmarried women and widows between 20 and 45 years.
—30
30—50
50—ω
Minima:
Län of Älvsborg 21·2
» » Jönköping 21·9
Maxima:
Län of Jämtland 61·9
» » Gävleborg 68·5
Entire Kingdom 41·1.
265
12 Est de Greenw
16
East of Greenw.
20
22
Östl. v. Greenw

For every thousand unmarried women and widows of 20—45 years, the numbers of mothers delivered of illegitimate children is as follows:

Sweden 1751—1910:		*European countries 1891—1900:*			
1751—75	11·7	Netherlands	13·8	Belgium	33·9
1776—00	17·6	Switzerland	16·0	Sweden	37·8
1801—25	28·3	England	16·2	Denmark	40·1
1826—50	32·2	Scotland	25·1	Italy [1]	41·6
1851—75	37·4	Norway	28·2	German Empire	50·8
1876—00	37·4	France	31·6	Western Austria	71·6
1901—10	41·1	Finland	32·8	Western Europe	36·9
				Northwestern Europe	37·8

[1] Illegitimate children and foundlings.

The first column of this table shows that a most marked deterioration took place in the country during the period 1776—1825, i. e. during the time that was also characterized by the greatest increase in the abuse of alcohol. During recent decades, changes have not been so great with respect to the number of illegitimate births, even though deterioration has advanced on the whole.

In comparison with other countries, we find that the figures for Sweden for 1891—1900 are in agreement with those of N W Europe, while they are slightly higher than the corresponding figures for W Europe on the whole.

The principal reason for the comparatively large number of illegitimate births in Sweden is, naturally, the above-mentioned decline in marriage-frequency, which has resulted in the percentage of married people now being lower than in most other countries in our continent.

Of the **other data** which serve to illustrate the moral condition of Sweden, we may here indicate the frequency of divorce, the extent of prostitution, the prevalence of venereal diseases, and cases of stillborn children, the difference in the death-rates between married and unmarried persons and between men and women, and, finally, the suicides.

The yearly total of **divorces,** per million of the population, for the decades 1831—40 to 1901—10, in the order given, amounted to: 35·1, 32·1, 33·0, 31·9, 43·9, 50·2, 69·0 and 88·9. The most recent periods thus show a considerable deterioration, but still this does not prevent Sweden's position in this respect from continuing to be a more favourable one than that of most of the other countries in Europe.

Regulated **prostitution** is found only in the cities of Stockholm and Gothenburg. At the close of the year 1865, the number of prostitutes in Stockholm was 230 per hundred thousand inh., whereas in 1910 it was only 75. For Gothenburg, the corresponding figures for the years 1887 and 1910, were 102 and 54 respectively.

The occurrence of **venereal diseases,** according to the investigations of *J. Kjellberg, J. E. Johansson* and others, seems to be on the decline (at least, as far as can be judged from the number of cases treated in the public hospitals); this is true not least in respect to syphilis. During the years 1861—65, there were annually admitted to the lock hospitals 118 cases per hundred thousand inh.; in the years 1901—05, on the contrary, only 65. During the former period, 10·5 ‰ of the patients admitted died, while during the latter period, only 2·7 ‰ died.

Respecting the frequency of **still-births,** which is considered by medical authorities to be very illustrative of the question of the greater or lesser

TABLE 30. *Annual number of suicides per 100 000 inhab. in each group.*[1]

Annually	Total	Married men			Married women			Single men [2]			Single women [3]		
		15—25	25—50	50—ω	15—25	25—50	50—ω	15—25	25—50	50—ω	15—25	25—50	50—ω
1831—50 .	6·47	13·1	18·6	19·6	1·5	3·2	5·3	5·6	28·4	22·2	2·6	6·3	3·7
1851—70 .	7·21	14·2	16·5	23·4	2·4	3·3	5·8	5·5	30·2	35·8	2·8	6·6	6·5
1871—80 .	8·68	7·2	18·1	26·9	3·1	4·2	7·1	6·1	36·7	54·4	2·9	8·0	8·6
1881—90 .	10·34	7·8	19·9	34·8	2·9	4·2	8·0	8·4	41·6	65·3	3·1	7·7	8·6
1891—00 .	12·81	9·0	23·2	40·5	1·4	4·4	10·4	9·2	50·7	87·6	4·2	9·4	11·0

[1] Death by phosphorus-poisoning among women under 50 years is not counted here as suicide. — [2] Including widowers. — [3] Including widows.

occurrence of syphilis; it has already been shown on a preceding page (136) that the frequency increased till about 1865, but that, since then, it has diminished very considerably. The figures for Sweden in this respect, are, on the whole, unusually favourable.

The **death-rate** among the different groups, according to *civil status*, affords certain stand-points for judging of the moral condition of the people. As is well known, the death-rate among unmarried men is always considerably higher than that among married men, a fact which, however, depends partly on the circumstance that the latter group, in certain respects, represents a selection, so to speak. The difference in the death-rates of married and unmarried men is, however, unusually high in Sweden in the more advanced ages, which, in itself, cannot be a favourable sign. It should be observed, however, that here, too a change for the better has been noticeable during recent years. — Between the death-rates of *men* and *women* there appeared an important difference during the period of the greatest abuse of alcohol, to the disadvantage of the former; during the last few decades that difference has been essentially reduced.

The chapter on **suicides** is, as is well known, one among the saddest in the history of recent times, and the remark holds good for Sweden, no less than for most other countries. In the following table a survey is given of the frequency of suicides, both for certain groupings with respect to age, sex, and civil status, and amongst the population as a whole.

For the decade 1901—10, the frequency is reckoned altogether to be 15·14 per 100 000. The great increase, on the whole, is particularly striking. It is, however, peculiar to find that little or no deterioration has taken place among the younger married men. The greatest increase amongst men is to be found among the older unmarried men, in which class the number of suicides has almost quadrupled.

Compared with other West European countries, the position of Sweden, has been fairly favourable in former times, but the great deterioration of late years seems to be setting this favourable position at stake. The figures of Sweden are far exeeded, however, by those of Denmark, Germany, France, Switzerland, and other countries.

Respecting the moral condition of the city of **Stockholm,** exceedingly gloomy descriptions are not seldom to be found in foreign literature. When these accounts do not contain absolute inaccuracies or exaggerations, it may be taken as a rule that they are based upon the conditions of earlier periods, and that they altogether ignore the changes for the better which have taken place during the last few decades.

In the years 1851—60, 43·4 % of the children born alive in Stockholm were *born out of wedlock;* in the years 1901—10 this percentage had fallen to 33·6; it had however been still lower in the intervening time. To every thousand unmarried women, between the ages 20—45 years, there are now in Stockholm about 53 illegitimate births annually; we may recall the fact that the mean figure for the whole of German and Bohemian Austria is 72. As regards Stockholm it should also be remembered that no small number of the mothers here included really belong to rural districts. The number of *stillborn children* in Stockholm has fallen from 55·5 ‰, for the years 1856—60, to 29·2 ‰, for the years 1901—10. We have before mentioned the decline in the number of *prostitutes.* — As concerns the *consumption of spirits,* it may be mentioned that when, in 1877, the sale was taken over by a company, in accordance with the "Gothenburg system", it disposed of about 23·5 liters of spirits (50 %) per head of the Stockholm population during its first year of activity, while nowadays the sale amounts to only 11 or 12 liters per head.

That the *death-rate* in Stockholm has undergone an unparallelled diminution, has been already mentioned. For the years 1851—60 the total death-rate amounted to 41·5 ‰ annually; for the years 1891—95 it was but 20 ‰, and for 1901—10 about 16 ‰. Only few great cities can nowadays compete with Stockholm in favourable lowness of the death-rate. — During the last few decades the *frequency of marriage* has quite naturally changed, and on the whole, rather increased than decreased. Matrimonial fecundity increased till the beginning of the nineties, but since it has diminished — in Stockholm, just as in Sweden generally, and practically over the whole of Europe.

If it be also remembered that, during the last fifty years, the population of Stockholm has trebled in numbers, and that its administration and public institutions of all kinds have, during this period, reached a standpoint which has often been acknowledged as perfect, it may with truth be said that the capital of Sweden is, nowadays, something quite different from what it was during the first half of last century, and that a work of reform and regeneration has been carried out, to which, for scope and thoroughness, it would be difficult to find a parallel.

Criminality.

Of all the branches of statistics, there is assuredly none of which the results are so difficult to judge correctly as criminal statistics, and yet investigation is compelled to return to them, over and over again, to endeavour to gain at least *some* light upon the gloomy problems presented by them to the human race. But it must be borne in mind that actual criminality is not reflected always quite adequately in figures relating to crimes brought into court or to sentences on offenders; sundry circumstances, such as a varying inclination to give information or to prosecute, differences of severity in the application of laws, etc. may at times introduce a variation of these figures in the statistics, without a corresponding change really occurring in actual criminality.

Concerning the statistics of criminality in Sweden, some chief data for earlier and more recent periods are collected in Table 31. These figures are, no doubt, unreliable and not fully comparable with each other, but they give, in any case, the best information that can be gained on the subject.

TABLE 31. *Summary of the Frequency of Crime in Sweden.*

Annually	Both sexes	Men	Women
A) *Serious crimes, 1861—1912*[1]			
1861—65	53·0	92·1	16·0
1866—70	55·8	96·2	17·6
1871—75	42·9	74·5	13·2
1876—80	38·4	67·3	10·9
1881—85	40·2	71·0	11·3
1886—90	36·5	65·1	9·5
1891—95	41·5	74·1	10·9
1896—00	44·9	81·6	10·0
1901—05	49·7	92·5	8·9
1906—10	49·1	91·1	9·0
1911	47 3	87·8	8·7
1912	50·9	93·4	10·3
1861—75	50 4	87·4	15·5
1876—95	39·1	69·4	10·6
1896—10	47·9	88·5	9·3

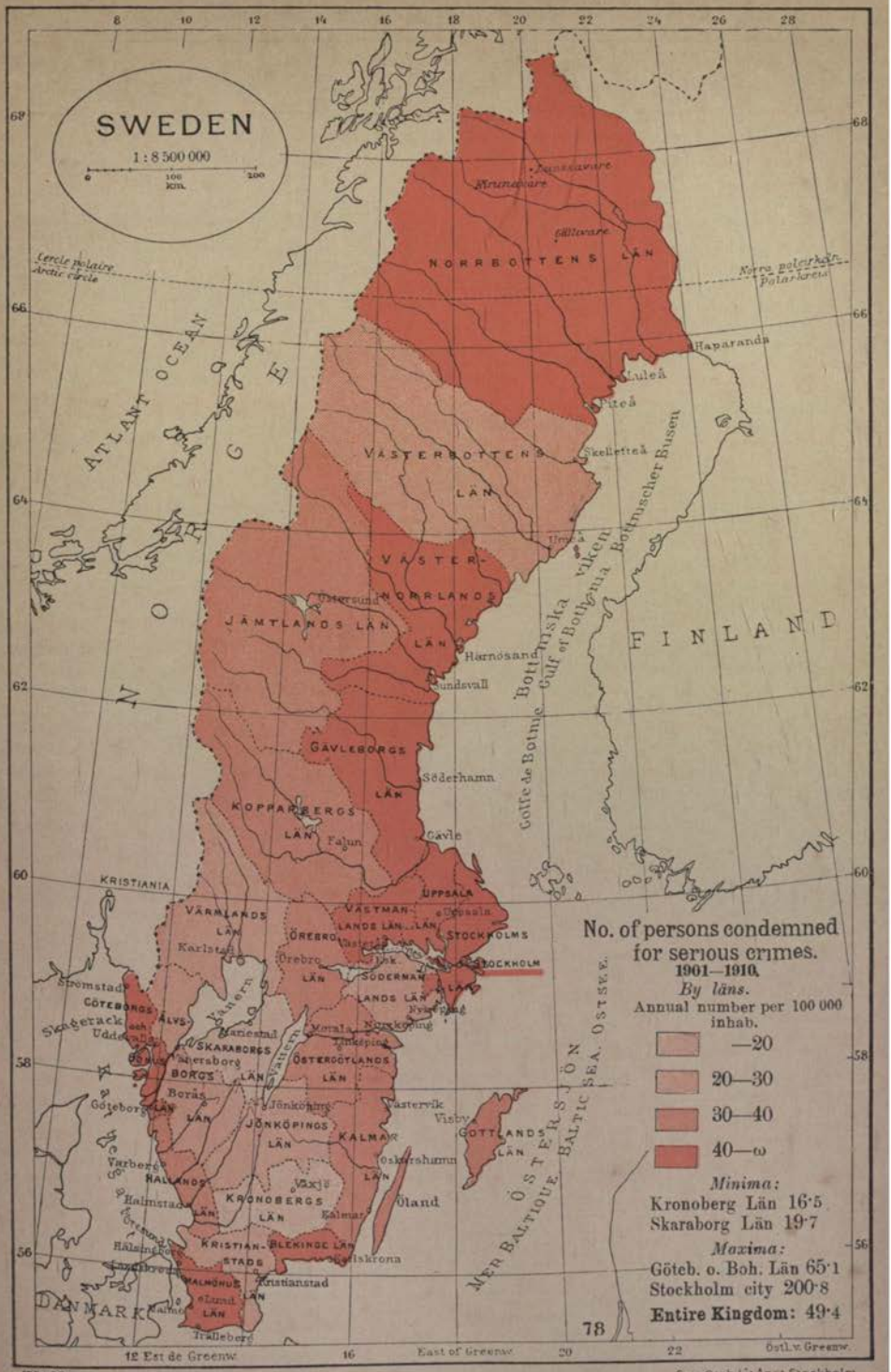
Age	Both sexes	Men	Women
B) *By ages, 1901—10*[2]			
15—18 years	76·2	136·5	13·8
18—21 »	150·5	272·8	27·2
21—30 »	150·2	276·1	25·6
30—40 »	74·7	139·3	14·3
40—50 »	42·9	80·7	9·5
50—60 »	22·1	43·0	4·0
60—70 »	9·6	18·9	1·9
70—ω »	2·0	4·4	0·2
Total[5]	49·4	91·7	8·9

Annually	Infanticides	Other homicides	Larceny[4]
C) *Special crimes*[3]			
1751—75	3·80	8·00	.
1776—00	4·63	7·15	.
1801—20	4·52	9·15	.
1821—40	3·95	12·73	837
1841—50	4·36	17·00	954
1851—60	4·72	10·76	667
1861—70	7·58	11·42	602
1871—80	9·14	12·42	581
1881—90	6·57	9·14	528
1891—00	5·74	8·96	591
1901—05	5·60	9·05	492
1906—10	6·25	9·32	476
1911	5·77	6·32	457

[1] Annual number per 100 000 inhab. of those pronounced guilty of serious crimes. It ought to be noticed that the increase after 1891 is *partly* apparent only, in that certain crimes before counted among "minor" are now reckoned to the number of the "serious". — [2] Annual number of those pronunced guilty of serious crimes, per 100 000 inhab. within each group. — [3] Annually per *million* inhab. The numbers of infanticides, homicides, and murders are gathered from the statistics of population, and are possibly too low, but the figures may still give an approximate idea of the direction of the change. For earlier times, the heading "infanticides" comprises all child-murders, whereas from 1861 only infanticide in a legal sense; the effect of this on the result will, however, prove rather insignificant, and all the more so as the figures for 1861—1910 are sure to be more complete than those for earlier periods. It will have to be noticed that according to the figures in the Table above, there was during the years 1751—75 an average number of 4 infanticides to every thousand of mothers of illegitimate children, whereas in our days, only about 2 (1906—10: 1·78). Concerning other kinds of crimes than those mentioned here, some data are given for the periods 1891—95 and 1906—10 on page 166. — [4] Petty thefts included. The first figure 837 refers to the period 1831—40. — [5] Per 100 000 inhab. of the total population (ages 0—15 included). — It may be observed that the official statistics do not make it possible, in the particulars given above, to avoid double reckonings to a certain extent.

If we look at the first division of Table 31, we find that the yearly number of people condemned for *serious crimes*, from the period 1861—65 to the period 1906—10, has *fallen* from 53·0 to only 49·1 per hundred thousand of the population. To this gratifying result have certainly contributed the decline in the misuse of intoxicating liquors, the improvement in popular enlightenment, the increase of wealth, and far-reaching religious and other humanitarian movements, which, during this time, have influenced the Swedish people. But some effect ought, possibly, to be ascribed to the emigration, which has carried away, not only a great number of the smartest and most capable of the population, but also a very great number of its most troublesome elements.

After having thus indicated a general improvement we must, on the other hand, admit, that the time subsequent to 1890 is again characterized by a serious deterioration. This has especially been the case in recent years, during which several crimes have attracted a large share of public attention. To a certain degree, this sad circumstance may be explained by the fact that in times of prosperity crimes against the person always show a tendency to increase; other



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causes are, perhaps, a legislation and an administration somewhat too humane. In several other respects, however, the phenomenon in question no doubt calls for earnest reflection. That the conditions, however, — either in comparison with those of times past or with those among other nations — are not so disadvantageous as at times declared statistics bear incontestable witness. Speaking generally, the earlier long wars have left in the temperament of the Swedish people a certain residue of violence, which is not to be found in the same degree with its neighbours — amongst whom again the frequency of many other kinds of crimes is greater than in Sweden.

From Table 31 it will be seen that the frequency of serious crimes is beyond comparison greatest between the ages 18—30, and next come the ages 15—18 and 30—40. The complaint heard in our days from nearly all nations about an increasing frequency of crimes among *minors* has made itself heard in this country too; a minute investigation has meanwhile shown that a deterioration really has taken place up to 1900 in the first years of youth (15—21), whereas recent times rather show an improvement.

Of those condemned for serious crimes during the period 1901—10, 80 % of the men and 79 % of the women were unmarried. Of the whole number, only 0·27 % were illiterate while no less than 3·65 % were unable to write. There were 1·1 % in very good financial position; 23·4 % in easy circumstances; 58·7 % in narrow circumstances; and 16·1 % were destitute of means. 11·6 % had been born out of wedlock, a figure which indicates a higher frequency of criminality in that group than amongst the rest of the population. Among men 28·8 % and among women 20·0 % have previously been sentenced for serious crimes. Among men and women alike, the frequency of relapse shows an evident decrease.

Of prisoners received into the gaols of the kingdom during the period 1901—10, to undergo penal servitude, 53·8 % among men and 15·8 % among women reported that they had committed their crimes in a drunken condition; 13·9 % of the men and 5·1 % of the women stated that, though not in drink during the perpetration of their crimes, they had nevertheless previously been given to drinking habits. The corresponding figures for prisoners received during the same period, for undergoing simple imprisonment, were 60·9 and 14·3, 8·3 and 6·8 respectively. Though certain criticisms might be passed on the absolute trustworthiness of these figures, they nevertheless give some idea of the influence which abuse of alcohol has exerted on crime.

During the years 1906—10, the frequency of certain kinds of serious crimes, expressed in the annual numbers of those condemned per million of the population, was as follows (for the purposes of comparison, the corresponding figures for the period 1891—95 are given between brackets): offence against public authority 64·0 (30·4), forgery 24·2 (25·3), perjury 1·81 (4·59), murder and attempt to murder 1·07 (1·74), homicide and causing another's death 6·99 (7·20), infanticide, feticide, and the like 10·36 (13·20), assault and battery 58·38 (57·3), rape 2·63 (2·03), sexual outrage 10·51 (6·66), arson 1·96 (5·38), theft 274·8 (252), robbery 3·00 (2·44), fraud and improbity 31·00 (17·2), other kinds of crimes 24·20 (16·4); thus altogether 515 (442) or — after subtraction of those guilty of more than one crime — about 491 (415). Of some among these crimes, Table 31 offers a survey also for times past which is of considerable interest in many respects.

The frequency of serious crimes in *different parts of the country*, during the years 1901—10, is shown by the accompanying map. In order to facilitate comparison with the corresponding map in the previous edition (referring to the years 1881—90), which is founded on fewer groups of figures, the summary in Table 32 gives additional information.

As serious crimes we have reckoned above offences for which the limits of sentences include penalty of death, penal servitude or deprivation of office, and

TABLE 32. *Frequency of Crime by Läns.*

Län	No. of persons condemned for serious crimes annually per 100 000 inh. (1901—10)	Län	No. of persons condemned for serious crimes annually per 100 000 inh. (1901—10)
Stockholm (urban area) (*max.*)	200·75	Älvsborg	27·67
Stockholm (län)	53·10	Skaraborg	19·65
Uppsala	42·73	Värmland	28·16
Södermanland	27·01	Örebro	33·34
Östergötland	35·22	Västmanland	44·46
Jönköping	21·14	Kopparberg	37·95
Kronoberg (*min.*)	16·45	Gävleborg	64·20
Kalmar	32·02	Västernorrland	50·89
Gottland	35·81	Jämtland	38·86
Blekinge	45·77	Västerbotten	27·41
Kristianstad	29·88	Norrbotten	44·53
Malmöhus	56·34		
Halland	30·67	Entire Kingdom	49·35
Göteborg och Bohus	65·11		

which are not expiable with fines. For **minor crimes,** during the period 1906—10, were annually condemned 197 persons per 100 000 inh. (1891—95: 185), and for **misdemeanours** (maximum fine imposed 100 kr.) 989, (respectively 602). The larger proportion of the latter, viz., 935 per 100 000 inh., were cases of drunkenness.

Remark. The figures given in this article — the completion of an essay by the late *Gustav Sundbärg* — are based upon the information afforded by the official statistics, and consequently the present arrangement must be retained.

A distribution of *all* offences committed, according to their anti-social tendency and represented by the varying severity of the penalties imposed, would no doubt throw a clearer light upon the real conditions of criminality. Further, it would be better to reckon the number of crimes and offenders not as a percentage of the whole population, but as a percentage of that part of the population which had attained penal majority (cf. the Tables). Also more detailed information as to different offences, the relative criminality of the urban and rural populations, particulars as to female and youthful offenders, the frequency of relapse, etc. would be of great interest for a due estimation of the tendencies of criminality. It has not been possible, however, here to make such a re-arrangement of the official statistical material. An interesting survey from these points of view — however, only for the period 1881—1910 and in Swedish — is given by *L. Widell*, Director-in-Chief of Royal Central Bureau of Statistics, in a lecture upon "The Evolution Tendencies of Criminality in Sweden" (Proceedings of the Society of Swedish Criminalists, 1913). The conclusions arrived at, which correspond on the whole with the particulars given above, can be summed up as follows: The evolution tendencies of criminality in Sweden, as far as they can be judged from statistical information, are in several respects incontestably satisfactory. A decline in criminality among women, a diminution in frequency of relapse, a general fall in the number of crimes against the individual and against property — these are all to be considered as matters for rejoicing. Not encouraging, however, are the tendencies regarding the offences against public authority and sexual crimes.

Customs and Mode of Life.

The customs and mode of life of the Swedish people have, like those of other peoples, in the course of the last few decades undergone changes in many respects. The standard of life has been raised, national idiosyncrasies have been rubbed off under the influence of a more lively intercourse with other lands, and the divergencies between different parts of

the country and different classes of society have been planed down. A brief sketch shall now be given of the general course of development, as exhibited in different spheres, such as clothing, food, dwellings, and customs.

Photo. GÖSTA FLORMAN, Stockholm.

On the Way to the Hayfield.

Dress in Sweden is in accordance with general European fashions, which nowadays are rapidly penetrating even into the remotest districts. The old national costumes have been almost entirely discarded. Only in a few regions are they still in general use. This is the case in certain parts of Dalarne (the parishes of Rättvik, Boda, Orsa, Mora, Siljansnäs, Leksand, Gagnef and Floda), and also among the Lapps. However, some of these becoming costumes have been revived for use on festive occasions; they are often worn at gatherings of young people in the open air, particularly by women, and by other classes than the peasants who originally wore them.

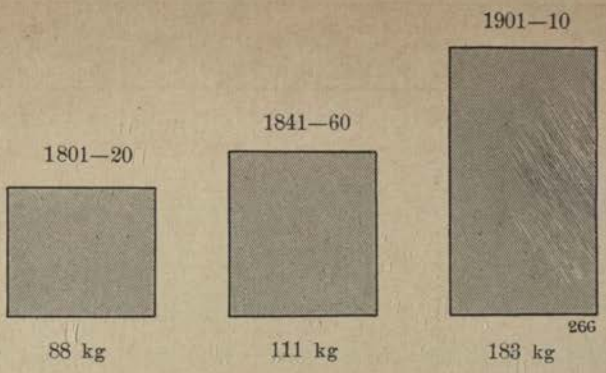
Distinction in dress between the different classes of society, as regards cut and style, has been practically effaced. The working classes have become far more exacting of late years in the matter of dress; the Swedish workman generally appears well-rigged after working hours. Distinctions have been levelled also as regards material, factory-made stuffs having replaced the hand-woven fabrics, even among the country people. The "schalet", a kind of kerchief knotted at the neck, which among the women was the distinguishing mark of the lower classes, has long been superseded by the hat. With regard to footgear, wooden shoes, "träbottnar", were formerly in general use; in recent times leathern shoes and boots have become the almost universal rule, not merely in the cities, but also in the country.

TABLE 33. *Costs of Living in Stockholm 1907/1908.*

	Costs		Quantities average figures per household
	Average figures per household in kronor	Relative figures %	
Foods, beverages etc.	953·84	100 00	.
Victuals	848·85	88·23	.
Animal	515·84	54·08	.
Meat	144·62	15·40	121·57 kg
Cook-shop wares	35·84	3·68	29·96 »
Fish	35·98	3·87	65·84 »
Milk and cream	148·27	15·49	893·71 l
Butter	72·73	7·61	32·26 kg
Margarine	13·99	1·26	8·66 »
Cheese	19·10	1·99	12·84 »
Eggs	38·01	4·04	568 st
Fat and dripping	6·13	0·63	5·47 kg
Other animal victuals	1·17	0·11	.
Vegetable	333·01	34·15	.
Bread	109·93	11·08	.
Hard bread	24·79	2·45	58·72 kg
Other bread	85·14	8·63	.
Flour	47·80	4·83	152·71 kg
Groats	10·44	1·03	26·38 »
Macaroni	1·18	0·12	1·63 »
Greens, fruit, etc.	66·38	7·01	.
Potatoes	23·96	2·50	392·79 l
Domestic orchard fruits	10·31	1·13	38·42 »
Forest berries	5.07	0·53	28·64 »
Peas, yellow, green	1·84	0·18	7·34 »
Beans	0·73	0·07	1·77 kg
Dried fruits	9·84	1·04	7·25 »
Other fruits	14·63	1·56	.
Sugar and treacle	50·74	5·25	81·88 kg
Coffee	27·04	2·80	17·16 »
Tea	1·33	0·13	0·27 »
Chocolate and cocoa	6·18	0·64	1·55 »
Other vegetable victuals	11·99	1·26	.
Beverages	53·26	5·98	172·39 l
Non-alcoholic beverages	2·26	0·27	6·19 »
Small beer	5·17	0·55	68·69 »
Stronger malt beverages	26·27	2·91	86·30 »
Wine	1·79	0·21	1·08 »
Brännvin and other spirits	17·77	2·04	10·13 »
Tobacco	10·18	1·18	.
Out-of-home refreshments	41·55	4·61	.

As to **foods,** there are naturally variations between the different parts of the country, according to economic conditions and means of communication. As yet there are no statistics on the subject covering the whole country. However, in various Swedish towns and more important industrial communities a kind of "family budgets" are being worked out, in accordance with modern methods: the results are not yet available. However, as regards Stockholm, the Municipal Bureau of Statistics of this city has carried out a statistical investigation of the costs of living in 1907/08 among families of small means. This investigation has yielded the appended summary (Table 33) of expenditure for foods and the quantities consumed. The summary refers to an average family (calculated on 150 different families), with an annual expenditure of close on 2 200 kronor, and consisting of somewhat more than 4 members.

Yearly Consumption of Wheat and Rye per Head of Population.



Although these figures really relate to Stockholm conditions, it is possible by putting together the quantities of the different kinds of foods and the retail prices in different places in Sweden, to obtain at any rate an approximate view of the cost of living in different parts of the country (cf. below). It should be borne in mind, however, that these quantities do not strictly apply to other places. Thus it can be stated with certainty that fuel and light are consumed in greater quantities in the north of Sweden, that fish bulks more largely on the West coast, and so on. With these reservations, the following table gives the expenditure of a household (of the above-named type) for the various kinds of provisions in different places in Sweden for 1909 (according to the estimates of the Royal Social Board).

	Expenditure for the most important kinds of provisions kr.		Expenditure for the most important kinds of provisions kr.
Kiruna	804	Söderhamn	706
Malmberget	789	Gävle	706
Gällivare	789	Falun	704
Stockholm	764	Västerås	696
Sundsvall	745	Halmstad	694
Luleå	743	Borås	689
Boden	731	Jönköping	689
Malmö	724	Karlskrona	683
Karlstad	719	Norrköping	682
Uppsala	718	Hälsingborg	677
Eskilstuna	713	Kalmar	671
Gothenburg	713	Kristianstad	671
Örebro	712	Vänersborg	663
Lund	708		

Table 34 gives a comparison between Sweden and other countries with regard to consumption of certain important articles of consumption; Table 35 furnishes a survey of the increase and diminution of this consumption in Sweden in the course of the last few decades. The accompanying diagram shows a bird's eye view of the fluctuations of consumption, as regards wheat and rye.

The above data show the consumption of the most important provisions to have increased considerably, which signifies greater prosperity among the population. The consumption of *wheat* has increased regularly, while that of

TABLE 34. *Annual Consumption per Head of Population 1901—1905.*[1]

Country	Wheat and rye Kg	Potatoes Kg	Coffee Hg	Tea Hg	Sugar Kg	Tobacco Hg	Brännvin 50 % Liter	Beer Liter	Wine Liter
Sweden	185	249	55·9	0·38	18·44	14·98	7·60	36·2	0·6
Norway	163	207	53·2	0·53	14·92	8·50	3·17	15·7	1·6
Denmark	308	218	42·9	1·83	30·56	20·00	14·08	93·8	1·5
Finland	231	134	39·5	0·48	11·97	14·20	2·84	10·7	0·5
Great Britain and Ireland	165	144	3·2	32·30	36·00	8·78	4·53	133·6	1·6
Netherlands	225	341	64·6	7·02	13·24	33·11	7·80	37·9	1·8
Belgium	311	348	51·2	0·13	9·91	21·36	7·95	218·5	4·6
Germany	245	638	30·1	0·51	14·67	16·24	8·02	119·3	6·6
Austro-Hungary	173	300	9·8	0·23	7·49	17·32	9·76	41·6	17·7
Switzerland	221	397	29·4	1·02	24·54	21·00	4·06	63·9	73·7
France	236	268	22·9	0·25	12·96	9·92	7·02	36·5	139·1
Italy	150	17	5·3	0·02	2·96	4·86	1·36	0·8	113·1
Spain	182	103	5·4	0·08	4·80	11·80	2·89	3·0	84·8
Portugal	83	35	5·1	0·55	5·56	4·55	1·00	1·0	72·5
Russia	199	174	0·8	5·06	6·91	5·65	9·40	5·7	4·0
Balkan States	152	6	7·1	0·13	3·36	9·10	2·85	1·8	24·9
West Europe	203	290	19·9	6·00	15·21	11·82	5·72	71·1	50·0
East Europe	188	171	2·3	3·53	6·47	8·09	8·74	11·4	9·1
Europe	**197**	**242**	**12·8**	**5·01**	**11·68**	**10·40**	**6·94**	**47·0**	**33·5**
United States	161	63	53·3	5·40	31·07	25·50	5·36	67·0	1·8

[1] For certain countries in the south and east of Europe the figures are occasionally of earlier date.

rye has latterly declined. The relation of the two chief kinds of bread to each other at different periods is also shown by the following figures.

Annually	Wheat	Rye	Total
1861—70	13·1	86·9	100·0
1871—80	15·5	84·5	100·0
1881—90	20·5	79·5	100·0
1891—00	29·0	71·0	100·0
1901—10	36·1	63·9	100·0

Whereas in the years 1861—70 *wheat* formed 13·1 % of the total consumption, its proportion in the years 1901—10 was nearly three times as great (36·1 %). *Barley*, which in former times was in the more northerly parts of Sweden almost the only grain used for making bread, has for that purpose been gradually ousted by wheat and rye.

The consumption of *meat* was computed by P. Fahlbeck for the years 1885—88 at about 28 kilograms annually per head of population, which

TABLE 35. *Annual Consumption per Head of Population in Sweden.*

Annually	Wheat Kg	Rye Kg	Potateos Kg	Coffee Hg	Tea Hg	Sugar Kg	Brännvin Liters at 50 %	Beer Liter	Wine Liter	Tobacco. Hg
1861—70	18	119	240	17·3	0·08	5·00	9·76	11·0	0·4	8·34
1871—80	24	131	262	23·3	0·11	7·73	10·96	16·8	0·8	11·37
1881—90	35	136	238	30·4	0·18	10·60	7·50	21·8	0·6	11·35
1891—00	51	125	233	41·3	0·35	16·06	7·37	23·4	0·6	12·92
1901—10	66	117	253	59·3	0·40	23·04	7·20	24·4	0·6	14·98

pretty nearly accords with the European average. This consumption is considered to have increased latterly, but there are no figures available. On the other hand, the consumption of *milk*, which in 1885 was estimated by G. Liljeholm at 183 liters per head (certainly an uncommonly high figure), is now less than formerly, as larger and larger quantities are being devoted to butter-making, for export purposes. According to Fahlbeck's calculation, 5·54 kg of *butter* were consumed annually — a very high figure in comparison with other countries. Another important article of consumption is *potatoes*, as is shown by Table 35. *Sugar* was formerly a luxury, the consumption of which during the fifties amounted only to 3·8 kg per inhabitant and year. However in consequence of the great fall of prices and the rise of a domestic manufacture of beet-sugar in Sweden, sugar has become a necessary for all classes of the population, and as the table shows, its consumption has greatly increased. There has also been an enormous augmentation in the consumption of *coffee*; in fact, Sweden is one of the greatest coffee-drinking countries, (in the north of Sweden coffee-drinking is even carried to excess, particularly among the women). On the other hand, *tea* is still confined to the more well-to-do classes. Characteristic of the Swedish table is the "smörgåsbord" (it occurs also in Russia), which consists of bread, butter, and a greater or smaller number of cold dishes, such as, slices of meat, anchovies, herring, etc., (sometimes with one or two minor hot dishes as well). Formerly "smörgåsbordet" was commonly called "brännvinsbord", a dram of *brännvin*, a kind of potato brandy, being considered an inseparable adjunct of it.

The consumption of *tobacco*, has from a European point of view, only racheed a moderate level, a disproportionate amount falling, however, to snuff, the sale of which for the year 1908 was reckoned at about 10 million kronor.

With regard to the consumption of *intoxicating drinks*, a detailed account will be found under the section entitled "The Temperance Question". Here it is only necessary to point out that the very large consumption of alcohol which prevailed in Sweden at the beginning and in the middle of the last century, has now diminished, and at the present time Sweden does not compare unfavourably with other countries in this respect. Out of spirituous liquours, *brännvin* shows by far the greatest consumption: about 26 million liters of it are estimated to have been sold in 1911. The Swedish "national drink", as it is often called, is *punsch;* however, it is consumed chiefly by the more well-to-do.

To sum up, it may be said that the "physiological budget" of the Swedish people has considerably improved in recent times; mainly as the result of increased prosperity, better means of communication, and educational progress.

Another important item as regards the standard of life is **dwellings.** No methodical investigation of this subject embracing the whole country is yet available. However, the State has now set on foot an investigation of this

TABLE 36. *Density of Population in Stockholm.*

Year	Number of inmates per 100 hearths[1]	Overcrowded small dwellings[2]		Number of inmates in overcrowded small dwellings[2]	
		absolute figures	percentage figures	absolute figures	percentage figures
1900	140	15 230	33·0	94 526	48·3
1905	132	14 265	26·8	87 189	41·2
1910	127	13 480	22·2	81 921	35·6

[1] All kinds of dwellings. — [2] The figures, both absolute and relative, refer only to small dwellings and their inmates.

TABLE 37. *Standard of Rents in Stockholm.*

Year	Average rent, in kronor		
	per dwelling	per hearth	per person
1894	356	118	83
1890	487	154	107
1905	544	172	128
1910	630	199	154
Increase %			
1894—00	36·8	31·0	30·0
1900—05	11·7	11·9	18·7
1905—10	15·8	15·4	20·9
1894—10	77·0	69·1	86·6

nature, and scattered results of it have come to hand. The municipal authorities have started investigations with regard to dwellings in various towns, Stockholm, Gothenburg, Uppsala and others. As regards the capital, there shall be set forth here a few figures on this subject taken from the last investigation of the Municipal Bureau of Statistics (Tables 36 and 37).

These figures show, amongst other things, that rents in Stockholm have mounted considerably during the last twenty years, viz. by no less than 70 % per hearth since 1894. The rent per person has, however, risen still more (87 %), which signifies that people now live more spaciously. This is also apparent from the figures in Table 36. The number of inmates per hearth has in fact diminished considerably, and likewise the relative number of overcrowded dwellings and of their inmates. *Housing accomodation* in the capital, however, has until quite recently been scanty: the enumeration of dwellings in 1910 showed that the number of unlet dwellings was only 1·85 % of the total; this is below the normal, which for Stockholm is between 2 and 3 %.

Table 38 gives a few figures showing how Gothenburg, the second largest town in Sweden, compares in this respect with the capital: the figures as a whole are more favourable for Gothenburg.

The importance of the housing question for the health of the people has induced both the State and private persons to make systematic efforts for the improvement of the conditions, particularly as regards the poorer classes. The Board of Statistics has carried out an investigation of what has been accomplished in Stockholm in this respect.

This investigation showed that no less than 46 000 persons, or 13 % of the population (end 1910) of the capital, were living in dwellings which by dint of special arrangements had been rendered a good deal cheaper than usual. Owing, however, to the vagueness of the term "cheap dwelling", the data are only approximate.

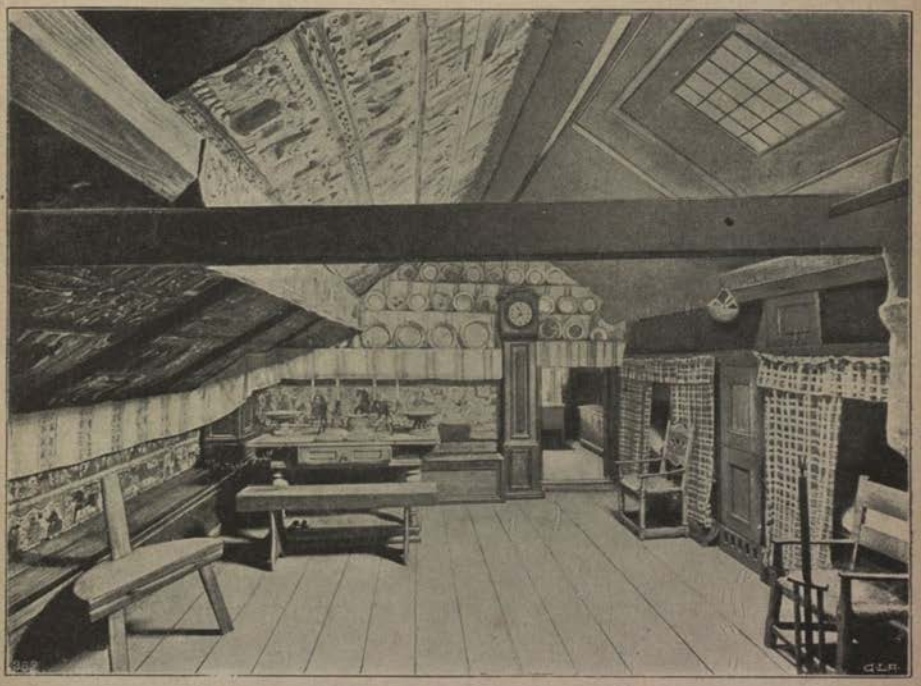
The higher standard of life which is attested by the foregoing data, in conjunction with better methods of physical training in the schools, has reacted

TABLE 38. *Housing Accomodation in Stockholm and Gothenburg.*

	Average rent in kronor			Number of inmates		Unlet dwellings in % of the total
	per dwelling	per hearth	per person	per 100 dwellings	per 100 hearths	
Stockholm 1910	630	199	154	402	127	1·85
Gothenburg 1910	332	122	81	412	149	2·12
Gothenburg in % of Stockholm	53	61	53	102	117	115

favourably on the physical development of the Swedish people, and on the death-rate. The reader is referred to the sections on these subjects.

Households in Sweden were still very large far into the 19th century; but in recent times their size has on an average diminished, as the number of servants has been restricted, and employers nowadays seldom have their work-people living with them. Thus the number of female servants to every thousand households was at the censuses of 1870 and 1900, 195 and 113 respectively.



The Interior of Oktorpsgården (Oktorp Farm)
Skansen, Open-air Museum, Stockholm.

As to **manners and customs** peculiar to Sweden, only a few scattered remarks can be adduced here. In this respect also, the general levelling-down of customs all over the civilized world has conduced to efface national characteristics. The increased traffic between different parts of the country has likewise caused many provincial features to disappear. Differences in manners and customs between the classes are also vanishing. As to the educated classes, their mode of life is substantially like that generally adopted in Western Europe of our days, allowance being made for certain traits of character peculiar to the Swedish people. The mode of life has been affected by movements such as temperance agitation, popular education (lectures, people's libraries, etc.), and the new interest taken in sport. The occasions on which curious customs make their appearance are times of festival. The greatest festival in the year is Christmas, which in Sweden is celebrated with greater thoroughness and more protractedly than in any other country. The home undergoes a complete cleaning, and is rendered as cosy as can be; plentiful supplies of food and drink are laid in, so that the whole Christmas festival may be a time of enjoyment and rest. The best known of Swedish Christmas customs is the use of the

Christmas tree, which, however, did not become general before the middle of the 19th century. Then there is *"julottan"*, the impressive service in the churches at a very early hour on Christmas morning. — Among minor festivals, there is *Valborgsmässoafton* (the night between the 30th April and the 1st May), which was formerly celebrated in many places by the lighting of big bonfires, and *Midsummer* (the 23 and 24 June), a festival peculiar to Sweden; its external characteristics are the copious decoration of houses, ships and vehicles, and so forth, with sprays of young birches; the people indulge as much as possible in out-of-door life.

As to family festivities, *weddings* were formerly solemnized with an extraordinary amount of ceremony and multifarious preparations: nowadays, however, they tend to be celebrated in increasingly plainer fashion. In several parts of the country the winding up of the *harvest* is the signal for great rejoicings, though perhaps not on the vast scale of former times.

Dwellings.

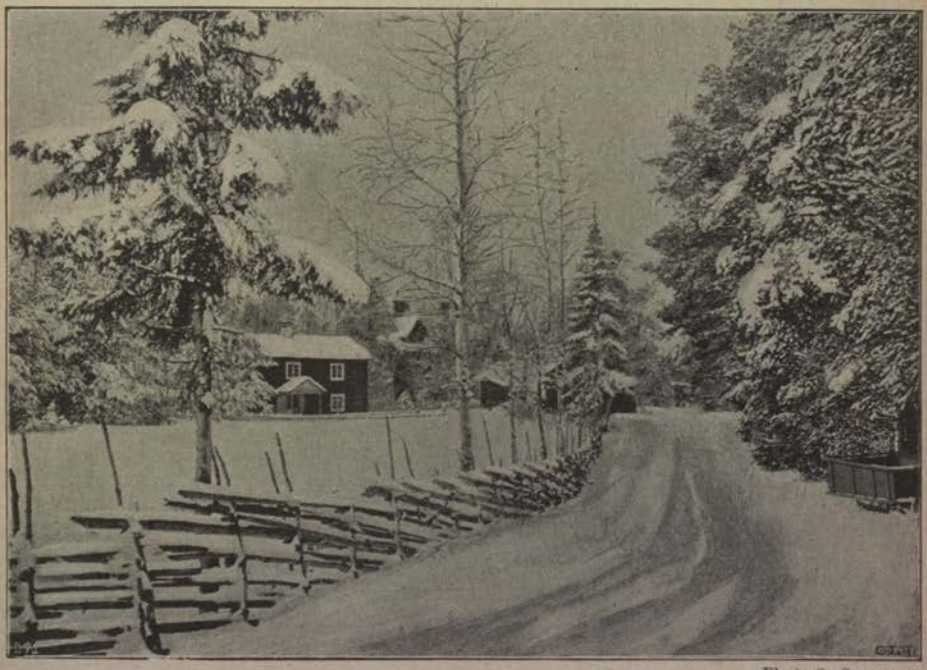
The character of the Swedish climate renders it an imperatively necessary that dwellings shall be built so as to secure warmth. Hence, houses have to be of solid construction, and every room must be provided with some appliance for artificial heating. Double windows during the winter are also almost universally regarded as an essential. As these requisites render the expense of construction relatively great, the number of rooms has generally to be restricted to a minimum, though people have become rather exacting as to their spaciousness.

Apart from houses in large towns and from occasional better-class residences elsewhere, dwellings in Sweden are still principally built of *wood*. This time-honoured building-material is giving place, though slowly, to stone. Even among towns, it is only in the larger ones and those that have had to be rebuilt in recent years, (owing to their partial or total destruction by fire), that stone buildings predominate. In the others, wooden houses still exist in much larger numbers, and this in spite of the fact that legislation exists to restrict their increase; hence all the high houses of flats erected in recent times are built of stone. In the country districts, where restrictions of this kind are unknown, wood holds the day almost unchallenged, and wooden buildings are more numerous the further north one proceeds. Stone and wood are used in about equal proportions in the island of Gottland and some small districts in South Sweden, though throughout Skåne stone is traditional, being employed not only in towns, but also in the country.

A **peasant's** domicile traditionally consists, in its simplest form, of a cottage, embracing, besides an entry, the cottage proper (stugan), a good-sized room combining the functions of kitchen, living-room and bedroom, as well as a small bedroom (kammaren). In more ambitious cottages the building is enlarged by the addition of either another room on the same level, or another story, or by both these adjuncts. A large peasant-farm will often have a cluster of two or more houses of the kind, especially in Northern Sweden. In Skåne, Gottland, and some other parts, the farm-houses are often constructed in one long story, as in the Danish and German mode of building. The farm-buildings, consisting

of provisision-shed, stable, cow-house, and barn, generally adjoin the farm-house itself; frequently all the buildings are grouped round an enclosed courtyard. There is nearly always a garden, large or small.

A special group of country dwellings is constituted by the smaller **Manor-houses** and parsonages, and the *official residences (boställe)* of civil servants and army officers, now mostly abolished. The simplest type of these dwellings consists of four rooms and a kitchen, on the ground floor, and two or more attics. Where means and opportunity permit, the house is extended, either laterally or by the addition of an upper story, or of a pediment giving space for one or more attic rooms. The main building is usually flanked by a couple of wings of smaller dimensions, for the servants and the service quarters.



Phot. O. SUNDBERG, Hedemora.

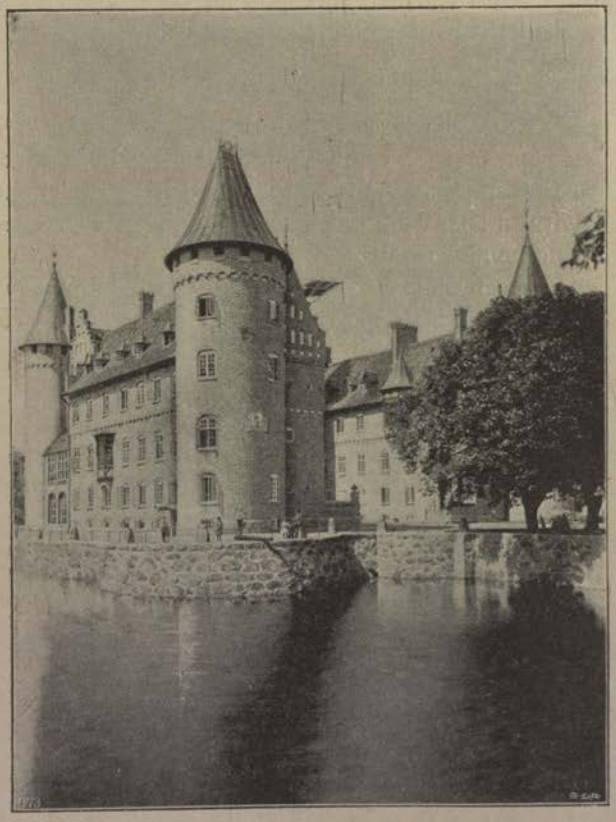
Winter Landscape in Dalarne.

Large Manor-houses and **Castles** are to be found more or less frequently in Central and Southern Sweden, but only rarely in the northern provinces. The appearance of these residences varies in different parts of the country, the style of architecture they display often depending on the dates at which they were erected. The manor-houses in Skåne are both the oldest and the largest; many of them were built in or about the 16th century: they resemble in style Danish buildings of the same period. Remnants, though for the most part fragmentary, still exist of mediæval castles *(borg)* not only in Skåne, but also, though more sparsely, in other southern provinces and in Central Sweden. In these latter parts 16th century manorial buildings also are rare, apart from the royal castles *(slott)*. The latter are dealt with under the section: Architecture.

The 17th century, the period of Sweden's political greatness, was the golden age of the Swedish manor-houses; the generals returning from the wars vied with each other in the magnificence of the castles they erected. These castles are most numerous and most beautiful in Södermanland and other provinces

bordering on Lake Mälaren. There is for instance Eriksberg in Södermanland, Skokloster in Uppland, and Tidö in Västmanland, the latter built by Axel Oxenstierna; all of these are preserved to the present day substantially in their original state.

During the 18th century castles still continued to be erected, though in number and importance they cannot compare with those of the 17th century. These two centuries, however, have combined to create the architecture of the present-day type of Swedish manor-house.



Trolleholm Castle in Skåne.

Recent times have brought about great changes in the building of dwellings in the rural districts. In former periods the big manor-houses kept up the tradition of good and substantial types of dwellings in the country. But with the industrial revolution in the middle of the 19th century and the advent of railways, the new-fangled architecture of the towns (the summer villa of the town-dweller) has set the fashion also in rural parts; the joiner's workshops with their wretched villas built to pattern have exercised a very pernicious influence, which the communities that have grown up around the stations have spread to many places far into the country. The simple solid construction is being ousted by

a more pretentious structure, usually of the villa type. The traditional red colour (with or without the white corners) so characteristic of the Swedish wooden buildings, a lasting colour, of picturesque effect in the landscape, is being replaced by vague oil-colour tints; the time-honoured roofing materials, peat, shingles, and the good old tiles give place to iron plate and asphalt pasteboard, and the old wooden facing of rough boards is exchanged for planed "beading" *(perlspont)*. But people are beginning to realize now after only twenty years experience that the modern plate roof, which rusts in the course of a generation, was but a sorry substitute for the tile roof, which would doubtless have lasted a century, and the same is the case with "beading". This dearly-purchased experience in conjunction with the systematic education of the public has, however, resulted in a tendency to revert to the building methods of former ages, to hark back to the times previous to the rise of industrialism, combining the old style with modern improvements as regards sun and air, convenience, warming, and so forth.

The relation of the building to its natural surroundings, which at one time was severely menaced by the erection of the dreadful "pattern" houses, seems to be once more coming to its due.

In former times houses were *warmed* by large *open fire-places* with log fires, which, however, only heated the rooms as long as the fire was burning. At a later period these fire-places were eked out by cast-iron stoves, called *biläggarugn*, into which the embers of the log fire were thrown. In more recent times the open fire-places were supplied with air-circulation channels. At the present day *earthenware stoves* (*kakelugn*) are in general use.

Almost half the number of Swedish *towns* date their existence from the Middle Ages; as to the remainder, most of them arose between the 16th century and the end of the 18th (the majority in the 17th), and some ten or so belong to the 19th century.

The only town in Sweden which has preserved its mediæval aspect quite intact is Visby, with its numerous picturesque ruins. Another relic from that epoch is the old "City" of Stockholm, which is mediæval at any rate in plan. Reminiscences of the Middle Ages occur pretty copiously in the towns of Skåne, somewhat more sparsely in other southern provinces and in central Sweden, but are almost entirely lacking in the north. The 16th century has, with a few exceptions, left but little mark on the Swedish towns; but reminiscences abound in them from the 17th and 18th centuries, particularly the former. This is true especially of Stockholm. However, broadly speaking, both the capital and the majority of provincial towns have a predominantly modern character. Buildings of the 19th century are the rule, those of preceding centuries the exception. This circumstance cannot be explained merely by the ravages af war and fire (befriended by the preponderance of wooden buildings); it is also largely due to the violent lust of "modernization" which appeared simultaneously

with the industrial revolution, and with the great movement of migration into the towns during the latter half of this century.

This lust of modernization has been effectively backed by the new *town regulation plans* adopted twenty years ago for most Swedish towns, and generally based on the familiar chess-board system, reckless of existing conditions, and by the Buildings Statute of 1874, applying to all the towns in Sweden. This Statute, for example, fixed the maximum width of streets at 18 (in special cases 12) meters, a greater breadth being prescribed for boulevards; ruled the maximum height of houses to be the width of the street plus $1^1/_2$ meters; no house to be more than 5 stories high; the minimum area of the courtyard to be one half (in special cases one third) of the area built upon; the minimum height of dwelling-rooms to be 2·7 meters, and the height of their floors 0·3 meters above the ground, and so forth.

The new building legislation, the laying down of water-supply pipes and drains, and other measures, have considerably reduced the danger of fires, and brought the sanitary conditions to a comparatively high level of perfection.

In the latter half of the nineteenth century **town dwellings** enter upon an entirely new phase; the Buildings Statute and the new town plans did away with the free style of building of former times: instead of houses standing apart in their gardens, were erected compact masses of buildings, of monotonous uniformity, block upon block. Formerly each house was built for one person, or one family, a part being reserved for letting; now houses are appropriated exclusively to letting purposes, being arranged in flats, one above the other, all the stories exactly alike. A novelty in the arrangement was the *centre corridor* (without direct lighting) running through the flat between the front and back rooms, the front part of it serving as a hall, and the back part as a kind of pantry, between the kitchen and the dining-room. This type of dwelling was gradually improved; the hall and pantry are now supplied with direct light; people are getting more and more to demand bath-rooms; the old dry closets are being replaced by water closets. The earthenware stoves, formerly almost universal, are gradually giving place to hot-water pipes distributing heat throughout all the stories from one central fireplace. In the houses of the well-to-do, hot water is also supplied from a central heater to the different floors. In most places electric light is in general use, and gas is beginning to oust wood for the heating of kitchen-ranges. Cold-water pipes and drain-pipes have long been obligatory even in the plainest dwellings. Apart from the drawbacks necessarily inherent in the flat system, the modern house is fairly satisfactory from a sanitary point of view, and reaches a high standard as regards comfort and appearance.

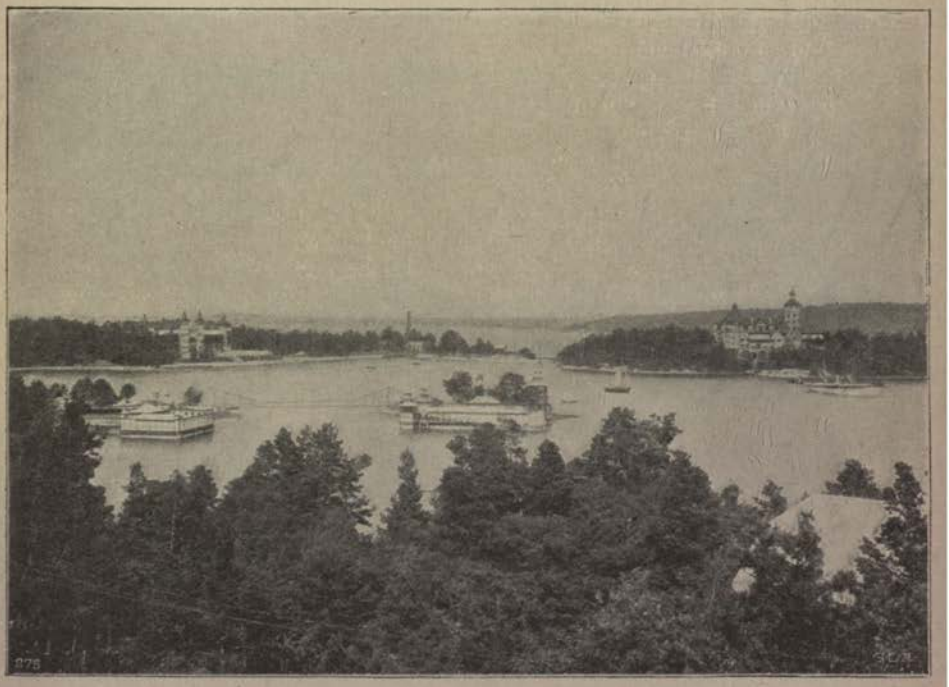
A workman's family in a Swedish town have generally to content themselves with one room besides a kitchen, or at most two. Two rooms is apparently becoming less of a rarity, at any rate where the rents are not too exorbitant. However, one of the rooms is often sub-let to lodgers, generally unmarried men; even dwellings of one room and a kitchen have often to be shared with an "*inneboende*", a lodger living in the same room as the family. An account will be found elsewhere of the work done by Workmen's Dwellings Societies, and by employers of labour, for the improvement of workmen's dwellings.

The middle classes in the towns live in flats of three, four, or five rooms besides a kitchen. Houses of flats with six, seven, eight, or more rooms are fairly common, and are nowadays pretty comfortably fitted out, often luxuriously; occasionally the architecture is of sterling quality. Sweden being rich in natural stone, various kinds of granite, limestone, and sandstone are employed as materials; latterly bricks have been coming into use for facings.

The love of nature inherent in the Swedish people is manifested by the gen-

eral custom of town-dwellers to spend the summer in the country. This is plainly attested by the numbers of those lighty built *summer villas* studded about in the vicinity of the larger towns, and so characteristic of the Stockholm *skärgård*, both of Saltsjön and of Lake Mälaren.

In recent times people have begun to realize more and more the defects of the old regulation plans and the enactments of the year 1874; it has become clearly apparent that the building problem in towns refuses to be settled by rule of thumb; it is composed of a variety of different factors, which it has been the mission of the new *art of town planning*[1] to take in hand and investigate, before a new district is given over to building.



Saltsjöbaden, near Stockholm.

Unfortunately the rule-of-thumb plans have already succeeded in doing irreparable damage in almost all Swedish towns. It is nothing unusual in the smaller towns to see the new five storey edifice alongside of the older one or two storey house, and this in places where the population is too small for this style of building. Another result is the high price of building sites, which has rendered it imposssible to erect at a profit anything

[1] For this purpose the larger towns have provided themselves with permanent bodies of officials working under the direction of competent architectural artists; Stockholm in 1909 instituted the *Town Planning Commission*. Sweden possesses a quite "up-to-date" legislation in the *Town Planning Act* of 1907.

but high houses of flats; this has barred a return to normal conditions, unless by violently upsetting the values of real property. The new Buildings Statute for Swedish towns which is now being drawn up, endeavours to put a stop to these evils, by dividing the towns into different groups with respect to legal height of buildings.

The result of all this is that in the towns houses are built exclusively for letting purposes; private houses do not exist, if we except a few belonging to the very wealthiest, and certain gratifying results of the modern town plan, which are referred to below.

The natural effect of this policy was that at the end of the nineties one *villa suburb* after the other sprung up in the vicinity of Stockholm: this being the only possibility then existing for the middle classes to procure houses of their own; moreover, the gradual disappearance of all greenery from the towns, and the congestion of the population in them, have impelled numbers to look about for residences freely situated in more rural districts. That the villa suburbs have been in great request, is proved by the fact that there are over fifty of them in the immediate vicinity of Stockholm; the most notable are Djursholm, Saltsjöbaden, and Lidingö..

In the **villa suburbs** the "open" style of building, in which each house stands apart, has been almost exclusively adopted. The buildings are generally constructed in two stories over a basement, the ground floor being reserved for living rooms and service quarters, and the upper floor for bedrooms. The two floors communicate with each other through a hall with a staircase, in contradistinction from the older type of house, the *small manor-house,* referred to above, with which these residences otherwise have much in common.

These buildings are generally made of wood, on a granite foundation; the roof is mostly covered with tiles. The size of the houses ranges from the small four- or five-roomed villa to the mansion with twelve to fifteen rooms; there are even large residences, substantially built, and luxuriously equipped.

The growth of the villa surburbs proved a powerful stimulus to the larger towns to introduce *new modes of building,* in order to check the outflow of the population from the town into the suburbs. The town plan was revised, and special districts were set apart for different types of modern buildings. In lieu of the high houses with their broad streets, certain quarters are reserved exclusively for residential purposes, and are planned with narrower streets for low houses, intended only for one family. There are two distinct types: the "open" style of building with detached houses situated in comparatively large grounds, as in the villa suburbs; and the "closed" style, houses in *rows,* built gable to gable, in order to economize building ground and obtain cheap dwellings. There are also combinations of these styles, in which the houses are built together in pairs, or in larger groups, in fours, fives, sixes, and so forth. As regards Stockholm, the closed style of building has been adopted in the new quarter popularly called "Lärkstaden", where the street names are taken from different species of *larks;* the open style is employed in the new

garden city at Djurgårdsbrunnsviken; in both cases the houses are built for the well-to-do. For people of smaller means, there is the suburb of Enskede, in which both systems have been applied; experience seems to show the open system to be most popular. In other towns the latter is mainly employed.

In the large and moderately large towns the big blocks of houses still seem to be the prevalent type in the more central parts; hence all that can be done there is to improve the *courtyard areas.* The enactments of the Buildings Statute of 1874 respecting the area of the courtyard have proved very unsatisfactory. The houses facing these courts are often badly off for sun and air: moreover, these courtyards often present a very dingy appearence, with their recesses, alleys, and many flights of stairs all leading out of the court. Accordingly, when new building ground is distributed, one endeavours to arrange in such a manner that the centre of the block is occupied by a large *free* courtyard, to be planted. The chief rooms of the different flats are then made to face this quiet, idyllic court, and the court itself is invested with a pleasing architectural character.

4. THE LAPPS OF SWEDEN.

We shall give below an account in some detail of the Lapps in Sweden, also including, for completeness' sake, some facts of a not strictly demographic character.

Scarcely a sixth percent (1·6 %) of the population of Sweden consists of Lapps, although there is probably a somewhat larger number who have Lapp blood in their veins. Even in the province of Lappland they now constitute only about 7·5 % of the total population. Although as Swedish in spirit as the rest of Sweden, the Lapps ethnologically, linguistically, and culturally, form a people apart. They are accounted to belong to the Mongol (or Mongoloid) race, are brachycephalic, and rather small in stature, having an average height of somewhat over 150 centimeters in the case of men, and 145 centimeters in the case of women; there are a fairly large number, however, who exceed this average. The face is broad, the cheek-bones very prominent, the teeth usually strong and in good condition; the complexion is brownish, the eyes frequently brown, and not oblique. They have usually rather lank, dark hair, and thin beards. Their muscles, particularly those of the legs, are well developed. Children and young Lapps often have a prepossessing appearance; but they alter very rapidly, and as they get older, become — according to our notions — rather ugly. The Lapps are generally acknowledged to be an intelligent, teachable, and good-natured people, though, in consequence of sad experience, suspicious of foreigners. They are tough and hardy, and cheerfully undergo hardships. They have a distinctly religious cast of mind. They are at least as temperate as their Swedish and Finnish neighbours.

The Lapps reached the Scandinavian countries from the East. The language, which belongs to the Finno-Ugrian class, shows that, before they came to Scandinavia, they had been so long in contact with Finns, that their original

tongue had died out, and been superseded by a kind of old Finnish, from which both modern Finnish and the Lapp language have developed. Although these languages are thus sister tongues, the Lapps and Finns are not closely related ethnologically. It is not possible to determine exactly the date at which the Lapps emigrated into the Swedish province of Lappland; but, on the ground of foreign words in their language, it is assigned to the centuries immediately preceding and following the birth of Christ. Their dissemination at a later period south of the present Lappland proceeded rather slowly. It is not till the 16th century that they are found in the mountain districts of central Jämtland, and not till the 17th and 18th centuries that they are found in Härjedalen. Even if stray families at a very early date roved with their reindeer herds far into Hälsingland and Dalarne, it was not till 1881 that a Lapp obtained legal rights of pasture in a small part of Dalarne.

After the Snow-storm.
From a painting by JOHAN TIRÉN.

The ethnography of the Swedish Lapps is entirely founded on their nomad existence. Their dwellings, their dress, their goods and chattels are all adapted to the management of reindeer. Evidently, this admirably practical development has a long history behind it. Except those who have afterwards adopted a settled mode of life (or those that have degenerated), the Swedish Lapps are either *Mountain Lapps*, who make regular migrations between the forest and the mountain regions, sometimes going right down to the coast of Norway, or else *Forest Lapps*, who keep with their herds to particular districts of the province of Lappland or the adjacent parts of Västerbotten. When the migrations to the

high mountains take place, the oldest Lapps often remain at the lakes where fish are plentiful, and, together with a smaller number of poor Lapps who have lost their reindeer and subsist mainly on fishing, are called *Fisher Lapps*. Out of the 7 138 Lapps in Sweden (approx. 1910) about 3 641 were nomads; in the läns of Norrbotten 4 330, in that of Västerbotten 1 780, in Jämtland, Härjedalen and Idre in Dalarne, etc. 1 028. With regard to their breeding of reindeer and the numbers of the latter, the reader is referred to the article on Reindeer, Part II.

Everyone knows that the Lapps have almost at all periods been hard pressed and often unfairly treated by their Scandinavian neighbours. During the Middle Ages they were oppressed by the "birkarlar", the privileged traders, and the tax-gatherers. In more recent times the "grass fens", "straw fields", and "drying-hurdles" of the settlers, and their dogs have occasioned the numerous and the bitterest conflicts. The unpractical method of the settlers of leaving their hay on the drying-hurdles until the winter, when it is stored as need arises, is unfortunately still retained in most of the Lapp country, and owing to the damage done by the reindeer to the open hay-hurdles is the frequent cause of strife.

More or less practical attempts to regulate the relations between the Lapps and the settlers have long been made by the Swedish authorities. The Act relating to the *Right of Swedish Lapps to pasture Reindeer* (as well as a law relating to "Reindeer Marks"[1]) was issued on June 4th 1886 and — with several admendments — July 1, 1898. In 1908 a Commission was appointed for the investigation of "measures to be taken to secure the existence of the Lapp people and the development of reindeer-breeding"; from this Commission we may expect a final settlement of the "Lapp question". The Lapps have had great difficulties in consequence of *international* relations. The Swedish frontier on the north was long unsettled, and consequently the Lapps in certain districts suffered severely. The relations with Russia were arranged by the Teusina Peace in 1595, and with Denmark and Norway preliminarily by the Peace of Knäred in 1613, when Sweden desisted from her claims to the coast land furthest north. It was not till the important treaty of Strömstad in 1751 that the north and west frontier of Lappland was definitely settled, a special "codicil" determining that the ancient rights of the Lapps to pasture on the Norwegian frontier should be respected "even in time of war".

However, the happier times which had thus ensued for the Lapps were not to last very long: the last century was fertile in strife and bickerings between the Lapps and the Norwegian settlers. In order to put an end to these disputes, various Swedo-Norwegian commissions were at work during the 19th century; the outcome of their efforts was in 1883 an enactment relating to *"those Lapps who move with their reindeer between Sweden and Norway"*; this enactment was to be in force for fifteen years, but has been prolonged for the present. In the most northerly Lapp districts this state of things was worsened by the Norwegio-Russian "closing of the frontier" in 1852, when Russia, after certain negotiations with the Norwegians relating to fishing waters on the Norwegian coast, closed its frontiers to the Norwegian Lapps. The immediate consequence was that a large number of Kautokeino Lapps with considerable herds of reindeer migrated to the Swedish Enontekis Lapp country, in order, as Swedish subjects, to circumvent the enactment. But many of those who migrated were notorious for reindeer-stealing, and, as the previously scanty Swedish pastures now became still more exhausted, this measure was extremely unfortunate for these northern nomads. Things became still worse for them when the *frontier between Sweden and*

[1] "Reindeer Marks": Reindeer are marked by cutting thier ears (as is the practice with sheep in Iceland). This "trade mark" affords legal protection to the owners of the animals.

Phot. Fr. Svenonius.

Pictures illustrative of the Ethnography of the Swedish Lapps.

(See the Key to the Numbers on page 186.)

Finnland was also closed by an imperial decree of the year 1889. Finally the *Dissolution of the Union* in 1905 was a fresh blow to the Swedish Lapps.

It is true that one of the Conventions of Karlstad (26th Oct. 1905) determined that the above-named codicil to the frontier treaty of 1751 should still be in force, that neither Sweden nor Norway separately should have power to annul it, and that the enactment of the year 1883 should hold good till 1918; but the fatal restriction was made that the Lapps should not be permitted to move over with their reindeer into Norway before the *15th June*. Previously they had been permitted to move over into Norway as early as the 1st May. However, it soon became evident that this severe restriction would entail the utter ruin of the Torne Lapps. New negotiations were entered into with Norway, and after renewed, extensive investigations, the Swedish Government resolved in 1909, with the permission of the Karlstad Convention, to refer this important question to arbitration; the Arbitration Court caused a number of other extensive investigations to be made by special international commissions. Finally, by the Convention of the 8th April 1913, direct negotiations have been resumed between the two kingdoms. However, while these negotiations are in progress, and in case they are broken off by either of the parties, the Torne Lapps have the right to follow the law of 1883 with regard to the time of migration into Norway. According to this convention, three delegates for each kingdom, after deliberation among themselves — and, if necessary, further local investigations — shall submit to their respective governments proposals for regulations "to hold good for some considerable time in the future".

Much has been done by the Swedish authorities for the civilization of the Lapps. The Vasa kings, Charles IX in particular, adopted powerful measures, such as the division of parishes, and the erection of churches and schools. The development has proceeded without intermission; it has been promoted particularly by the Ecclesiastical Board of the Lapp country, instituted in 1739. Especially after the middle of the 19th century, the State, together with the Swedish Missionary Society and other religious societies, has instituted a fairly large number of schools, both permanent and movable, for the Lapp children. A fair number of books are printed in the Lapp language, for example the New Testament in 1755, and 1903, and the whole Bible in 1811. The religious movement which has most deeply and permanently affected Lappland is *Laestadianism*, from the middle of the last century, so-called after its founder Lars Levi Laestadius.

The Lapps paid taxes to the crown in kind (skins, dried fish etc.) till the year 1695, after which time "the Lapp rent" has been a money tax for which the whole Lapp village used to be, and still is, responsible. They are exempt from all military service; in recent times, however, the question of conscription in the form of a regular scout service has often been ventilated. The rates paid by them are in certain parishes rather high, in others low; in some parishes they are entirely exempt.

Key, to the Numbers in the Pictures on page 185.

1. *Sör-Kajtom* Lapps, Lule Lappmark.
2. *Talma* Lapps, mother and son, Torne Lappmark.
3. *Tuorpon* Lapps, parents and son, Lule Lappmark.
4. *Jokkmokks* Lapps, one of them a settler, Lule Lappmark.
5. *Sirkas* Lapps, to the left an old woman, 90 years of age, Lule Lappmark.
6. Immigrant *Kautokeino* Lapps, mother and daughter, the latter in a cradle, Torne Lappmark.

7 and 9. *Åsele* Lapps, boys and girls from Gafsele Lapp school.

8. Herd of reindeer on the mountain plateau north of Aktsek, Lule Lappmark.

10. Carved Lapp implements of reindeer horn: knife-handles, needle-cases and scissor-cases, spoons, purse and belt bones, netting-needle.
11. *Mountain-Lapp* camp north of Akkavare, Lule Lappmark; to the left a *Suonger* (see No. 14).
12. *Puogge:* shed for a number of articles unused in the summer, which are left behind at the spring dwelling.
13. *Forest Lapps* in front of their *birch-bark hut*, Korpilombolo.
14. *Suonger* with a number of household utensils: milk-scoops (*nappe*), shovelling rod (*klakka*) used for hunting for moss under the snow, sumpter baskets (*kisa*), sieve, milk bottle, cheese mould (*skappo*); to the right a cheese stand (*sidde*); on the ground kegs for tar, and for *juobmo*, that is acid or aromatic herbs (rumex, angelica, etc.) reduced by boiling to a mash.
15. *Hut made of dried boughs* (to the right), with goat stall, belonging to *Fisher Lapps*.

III.

CONSTITUTION AND ADMINISTRATION.

The government of Sweden has from time immemorial, as far back as written history reaches, been monarchical; and the head of the State has always had the title of *King.*[1] The King's official title is "Sveriges, Götes och Vendes Konung" ("King of the Swedes, Goths and Wends"). *Sveriges* has taken the place of *Svears,* which originally denoted the inhabitants of Svealand; *Götes* should properly be *Götars,* which denoted the inhabitants of Götaland. Finally, as regards the title *Vendes konung,* this was adopted by Gustavus Vasa as a rejoinder to the Danish kings of his day, who in their formal style to the title of "King of the Wends" *(Vandalorum Rex)* added, without any justification, that of "King of the Goths" *(Gothorum Rex).*

Sweden has two *national coats of arms,* the great one and the small one (Law of the National Arms, 15 May, 1908). The great coat of arms consists of an escutcheon quartered by a gold cross pattee, with an escutcheon of pretence. In the chief escutcheon the four quarters have a blue field, the first and fourth quarters with three golden crowns, the second and third quarters having three bends sinister in silver, the whole surmounted by a crowned lion in gold. The inescutcheon is divided into two fields. The first field is divided barwise into three — gold, silver and red — overlaid by a sheaf *(vase)* in gold (the arms of Vasa). The second field bears a bridge standing in silver water; over the bridge may be seen a golden eagle; and in the upper part there is the constellation of Charles's Wain (the arms of Ponte Corvo). As supporters stand two crowned lions looking backwards (rampant regardant) with cleft tails. The escutcheon is surmounted by a royal crown and surrounded by a mantle under a royal crown.

The small coat of arms consists of a blue escutcheon with three golden crowns, surmounted by a royal crown.

[1] On three occasions the title has been *Queen.*

The Swedish *flag* (Law of 22 June, 1906) is blue with a yellow cross. The Swedish naval flag is split in three points: for other purposes the flag is rectangular.

The Swedish Orders of Knighthood are five in number: viz. the Orders of the Seraphim, of the Sword, and of the Northern Star, since 1748; that of Vasa, since 1772, and that of Charles XIII (for Freemasons), since 1811.

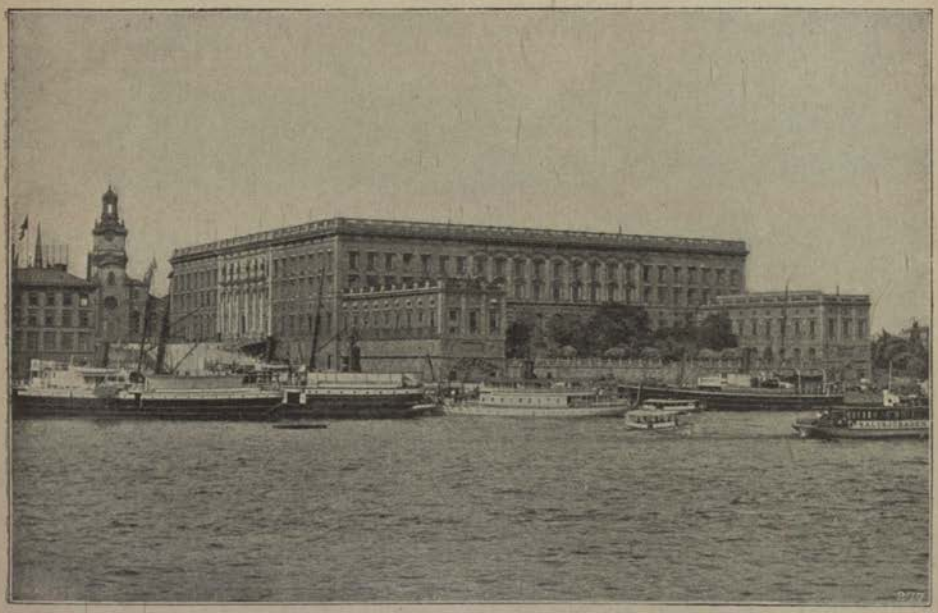


Photo. Fr. G. Klemming, Stockholm.

The Royal Palace, Stockholm.

1. CONSTITUTION.

As has already been shown, Sweden had been inhabited, for a considerable period prior to the birth of Christ, by a Teutonic people, according to modern theories, indeed, the population of the country even in the Stone Age was probably of the same origin. Though bodies of immigrants may subsequently, from time to time, have found their way into the country, the country was never exposed to conquests at all comparable to those which, during the period of the wanderings of the peoples, passed over Central and Southern Europe; and the remote situation of the land geographically kept it long unaffected by those influences which were shaping and organizing the fabric of society in the rest of Europe during the Middle Ages properly so called. Thus it came about that a highly individual organization of society, based on the conceptions of the primitive Teutonic races, grew up and long maintained itself in Sweden.

By the time that information as to the state of things in the country begins to be rather less scanty, however, the oldest phase of that social organization was already passing away. Here, however, as among other Teutonic peoples, there undoubtedly existed side by side numerous independent minor kingdoms or *fylken;* and we have the authority of tradition for believing the kingship to have been a primitive institution among them. In point of fact, however, before the commencement of historical times, in the usual acceptation of that expression, these minor kingdoms had become united under the King of Uppsala, who was likewise warden of a far-famed Temple of the Gods. But the dominion of this monarch was for a long period little better than nominal: the different provinces *(Landskap)* of the country retained a large measure of independence, which was represented by the "lawman" *(Lagman);* they each had laws of their own and settled their own concerns independently in their own assemblies *(Ting);* and they each regarded as strangers the people of another province. In these various provinces there were really but two classes of society — free and unfree (or thralls). There was no class of nobility endowed with special privileges, but there was a class of powerful chiefs or great landowners (*storbönder: yeomen*). Here, as in other Teutonic communities, the oldest form of monarchy was based on a *combination of the hereditary and the elective principles.* The new monarch was, as a rule, a member of the same family as the late one; but there was a possibility of choice between the different members of the family, or even of going outside it.

Christianity was introduced but slowly into the country; and during the eleventh century it led to struggles between those provinces that had already embraced it and those that still adhered to paganism. These struggles passed into struggles concerning the right to elect the king; and these in turn threatened the entire dissolution of the kingdom. In church matters, however, unity was established by the introduction, in 1164, of an archbishop for the whole country; and shortly afterwards accounts speak of one king only, though for a long time the unity of the country was still weak, and the elective principle was still acknowledged.

While monarchy in Central Europe had to contend in the middle of the thirteenth century against dissolution at the hands of feudalism, it had in Sweden to combat the tendencies towards a break-up into provinces. At that time, however, the idea of centralization was taken up by a couple of vigorous rulers of the Folkunga Line, who were able to gather round them both the spiritual and the temporal magnates of the Realm. As a result, we can discern an increase in the power of the monarch; but at the same time there gathered round the king a council forming a kind of representation of the kingdom, called the Royal Council or the *Council of the Realm (Konungens* or *Rikets Råd),* consisting of the magnates above mentioned. Contemporaneously with their accession to a share in the government, commences national legislation, resulting, in the middle of the fourteenth century, in a code of law for the whole country, which, in the section entitled "Konungabalken", or Section relating to the King, touches upon the constitution of the State. The thirteenth century was, moreover, a period of far-reaching social changes and of the rise of the Estates of the Realm: of these facts mention has already been made in a preceding section of this work.

From the middle of the fourteenth century there succeeded a period of internal confusion. The feudal system was never actually introduced, it is true (though impulses in that direction were not lacking); but the magnates began to show signs of overtopping the kingship, and the latter was not organized in such a way as to be able to hold them in check. And then the course of purely national evolution was interrupted in the *Union between Sweden, Denmark, and*

Norway (1397): during that period the interests of Sweden were slighted by the rulers of the three united countries, and at times the country was left without a government at all. This produced, in the early part of the fifteenth century (1434), a vigorous national movement that was specially characterized by the part taken in it by the rural population (the small freeholders or peasants) under the leadership of the gentry or lower nobility. At the same time there appeared alongside older forms of representation (the Council of the Realm, assemblies of nobility) general assemblies, to which representatives of the market-towns as well as of the peasantry were invited, and thus arose the *Swedish Diet* **(Riksdag).**

Interior (Konseljsalen) Royal Palace, Stockholm.

To defend itself from the evil effects of the union, the nation for long periods placed at the head of the government a "*Protector of the Realm*" (*Riksföreståndare*). This confused state of affairs, however, rendered impossible any normal development of the body politic. At the close of the Middle Ages, therefore, matters stood about where they were at the beginning of the fourteenth century.

At length, the union with Denmark was for ever brought to an end by *Gustavus Vasa* (1523—60). A powerful monarchy once more came into being, the Church in Sweden underwent many alterations in doctrine and government and especially became much more dependant on the King, the independence of the provinces was destroyed, hereditary succession to the crown was introduced (1544), and the unity of the State as such became a reality. The kings of the Vasa Line

carried through a reorganization of the administration of the State, which was completed, after the death of Gustavus Adolphus, by the *Constitution Act* of 1634. The Council of the Realm was transformed into a permanent Chamber of Councillors, a *Senate* in the capital, and became more and more distinct from the *Riksdag*. The latter, on the other hand, developed into an independent organ of the unity of the kingdom. Though for a long time it was only summoned to meet on specially important occasions, it was nevertheless enabled, during the internal struggles at the close of the sixteenth century, to take part in all the important changes then made in the status of the Realm; it began to share, too, with the king in legislation, and took over the right of taxation, while the other representative bodies (provincial assemblies, etc.) gradually disappeared. The *First Organic Law for the Riksdag* dates from 1617. The Riksdag remained a diet of estates, (*Ständer*) now organised in four estates: viz., the *Nobility*, including both the higher and the lower orders of the nobility (counts and barons from the time of Eric XIV) and forming a House of Nobles (*Riddarhus*), in which all noble families had a right to be represented, and where for a long time, moreover, the officers of the army were represented; the *Clergy;* the *Burgesses;* and the *Peasantry*, the three last consisting of delegates for the Church, the Towns, and the land-owning Peasants. The Protestant Clergy, as representatives of the higher intellectual culture and thanks to the prominent part they had played in the internal struggles at the close of the sixteenth century, had acquired very considerable influence and constituted by themselves one of the four Chambers of the Riksdag.

Matters did not proceed, however, in an even course of normal development during the seventeenth century, for two regencies, extending together over almost a quarter of a century, involved interruptions and brought with them a degree of irregularity in the external forms of government; contemporaneously, too, arose conflicts between the Estates. These contentions lasted for upwards of thirty years (1650—82) and ended in a partial victory for the lower Estates. At a time of great financial embarrassment for the Crown, an Act of Resumption was forced through the Riksdag in the reign of Charles XI, by which all grants from the crown-demesnes were annulled, especially the great fiefs of Counts and Barons. This victory for the lower Estates, however, was obtained at a high price, for it was gained only by giving into the King's hands *absolute power*. The Riksdag was, it is true, summoned to meet at intervals, but only for the purpose of giving assent to the King's proposals; and Charles XII (1697—1718) ruled without a parliament, exercising in his own person the rights of legislation and of taxation.

On the death of Charles XII the dominion of Sweden as a Great Power fell to pieces, and the blame for the misfortunes that had brought the country to the verge of ruin was attributed in Sweden to the absolute monarch. To a very substantial extent it was owing to the Estates of the Realm that the restoration of the Kingdom both in internal and in external relations was effected. Without disturbing the foundations of the old fabric of state, which was regarded as consisting of the King, the Council, and the Estates, the last-named endeavoured, by merely transferring the preponderance of power and by other precautionary measures, to provide against a recurrence of the abuse of the royal prerogative. The King was still at the head of the government, but he was expected not to issue decrees on his own judgement alone, but to take and adopt good counsel. It was thought that this would be ensured by the ordinance that, in case of vacancy in the Council of the Realm, the Estates were to propose a list of candidates, from whom the King had to choose one, and that all important matters were to be decided by voting in the Council, at which the King should have two votes together with a casting vote. Members of the Council, more-

over, were to be held responsible to the Estates. The King was not actually deprived of his share in legislation, but he was constrained to promise always to abide by the decision of the Estates of the Realm, which consequently in actual fact became the sole legislative bodies. They decided on the budget estimates, moreover, and naturally exercised the right of taxation. By the ordinance that they were to meet at stated times, provision was made that their influence should not be circumvented. Finally, the Estates became the highest court of appeal in practically all questions, owing to the ordinances that anyone should be permitted to lodge a complaint with them if he considered that he had been wronged and could not obtain redress by other means, and that the Estates had the right to examine all branches of the administrative government and, in case of need, set matters to rights. The principal regulations concerning the constitution and the mode of procedure in the Riksdag were contained in the *Constitution Acts of 1719 and 1720* and in the *Organic Law for the Riksdag of the year 1723*. These laws began to be called *fundamental laws*.

The "*Period of Liberty*" (1718—72) is interesting from its attempt to organize a free constitution in a legislative way: it is, moreover, one the earliest attempts of its kind in the history of modern times. The legislators, however, had by no means a clear idea of constitutional monarchy and its character. They dealt chiefly with time-honoured Swedish forms and ideas of government, which they merely sought to adapt to what were felt to be the needs of the moment. The whole reform wears the aspect of a reaction against the excesses of an earlier period, excesses that had entirely broken the normal course of development. As is usual in such cases, excess was countered by excess; and this was so much the more dangerous because the new system was defined with the utmost possible precision in law. The *Kingship* had, in set terms, been stripped of well-nigh all its prerogatives and was treated with a deep suspicion; and in the so-called *Royal Declarations*, moreover, a further means had been devised for fettering the hands of a new king. It was natural that the occupants of the royal dignity should become discontented with this condition of things, and were disposed to intrigue against this form of government. *The Ministry* (The Council of the Realm) soon acquired the character of a mere proxy of the Estates, taking its orders from them. Under favourable circumstances, it is true, it could enact the *rôle* of a leader; but towards the end of the period it entirely lacked the power of doing so. The modern conception of a ministry, moreover, was so far from people's minds at that day that the council was considered to be permanently appointed, unless the members were expressly removed from their posts by the Estates. As the party system took a more definite shape, the assumption of power by one party involved, it is true, a change in the composition of the Council; but when that took place, it came as a species of punishment and political persecution.

The *Estates* had become the depository of power; and it would have been strange if they had not exceeded the bounds assigned to them by the fundamental laws; they soon interfered in the administration, both of Justice and of State, in a manner that imperilled the rights and security even of individuals. This extension of their influence became specially disastrous in the sphere of foreign politics, which now began to depend solely upon the prevailing majority in the Riksdag. The four-chamber system was retained; but it was this very system — together with the great numerical strength of the Chamber of the Nobility and the ignorance of the members of the Chamber of the Peasantry — that brought it about that almost all affairs of any importance were entrusted for settlement to a *Secret Committee* (consisting of 100 delegates of the Estates). As this body conducted its business under the protection afforded by strict

secrecy, it was able, for a considerable length of time, to exceed its authority with perfect impunity.

The constitution during this "Period of Liberty" was naturally favourable to political speculation. Especially when the process of development began to go astray, it was of importance for one party to defend the system, and for the other to combat it. In the ranks of the opponents, at first under the influence of the Court party that became prominent about 1750—60, there gradually emerged the doctrine of a real "division of powers" between King and Riksdag — or, in other words, the doctrine of a constitutional monarchy.

It was not these theories, however, that were destined to effect a change in the constitution of the state: the crisis came from another quarter. The Riksdag was a diet of Estates; and among the Estates unity did not prevail. The Nobility laid claim to the high offices of the State, enjoyed privileges in the right of owning land exempt from taxation, and endeavoured also, at one time, to form themselves into a close order by preventing the ennobling of any other families. The offices attracted the unprivileged middle classes; while the peasants were only able to possess land encumbered by land-taxes, and had not, in all cases, full freedom in the management of it. A chance circumstance kindled the strife between the Estates at the beginning of the seventeen seventies; the privileges of the nobility were attacked in numbers of pamphlets, and far-reaching demands for social and political equality were put forth. The privileges of the nobility were threatened, and as the integrity of the Kingdom was also in danger, by reason of the corruption in the ruling party and its dependence on Russia, Gustavus III, with the aid of the nobility, embarked on his famous *Revolution* of the year 1772.

The form of government was embodied in a new *Constitution Act*. The King recovered his independent position as head of the State; and a division of power was partially introduced, inasmuch as the united consent of King and Riksdag were made requisite for the enactment of laws. But the assembling of the Riksdag now depended upon the King's pleasure, and the ministers were not responsible to the Riksdag. That body possessed, it is true, the right of taxation, but it lacked any effective control over the expenditure of public money. The constitutional element in the new form of government was thus more apparent than real, and, in fact, the King took his real advisers either inside or outside the Council of the Realm. It soon became evident that the King was trying, by every means in his power, to neutralize the activity of the Riksdag and to interpret to his own advantage the ambiguous expressions that the fundamental law contained in many cases. At length, when strong discontent arose out of this and other causes, the King plunged into war with Russia. Thereupon, the discontent broke into open flame in the Anjala mutiny, led by officers of noble birth. Availing himself very cleverly of the strife between the Estates which recommenced as a consequence of that rising, Gustavus III carried out a new Revolution (1789); and by an appendix to the Constitution Act, called the *Act of Union and Security (Förenings- och säkerhetsakten)*, he obtained for himself complete liberty in the government of the Kingdom, the right to declare war, etc. The power of the Riksdag was further restricted, the time-honoured Council of the Realm was dissolved, and the King sought counsel of a ministry appointed in a somewhat arbitrary fashion. For the administration of justice in its higher branches, a special High Court of Justice was instituted; and for the administration of the National Debt, a special National Debt Board was appointed under the direction of the Estates. The distinctions between the estates were to some extent removed. Commoners were allowed to hold most of the offices of State, and the position of the peasantry as a class was materially improved. The form of government had, however, once more approximated to absolutism.

Gustavus IV Adolphus (1792—1809) proved incapable of taking advantage of the vast power placed by law in his hands, and, having brought the country almost to the verge of ruin, he was dethroned (13 March, 1809). The Estates of the Realm assembled, and had again to undertake a task like that presented to their predecessors on the death of Charles XII — namely, to set up a new form of government for the Kingdom: for that it must be altered all were agreed.

The Riksdag's Resolutions of 1809 inaugurated the Swedish polity that is still in force. In framing its provisions, advantage could be taken of the very great experience drawn from the varying constitutional experiments during the foregoing centuries; and the legislators showed that they were fully able to cope with the task set before them. They were careful to strike a moderate middle course between the excesses of democracy and of autocracy, and laid a firm constitutional basis in the truest sense of that expression. Moreover, with the exception of the regulations regarding the composition of the Riksdag, no sweeping changes have since been made in the constitutional fabric then bestowed upon Sweden.

In accordance with ancient practice the regulations were drawn up in three divisions — the three fundamental laws: the *Constitution Act (Regeringsformen)*, of 6 June 1809, now the oldest of the written fundamental laws in force in Europe; the *Organic Law for the Riksdag (Riksdagsordningen)*, 1810; and the *Act of Settlement (Successionsordningen)*, 1809: of these, the first-named is expressly stated to be the principal one. A fourth fundamental law was adopted in 1810: the *Law on the Liberty of the Press (Tryckfrihetsförordningen)*. A new Act of Settlement had to be adopted on 26 September 1810; the *Press Law* was replaced by a new one on 16 July 1812; and the *Organic Law for the Riksdag* of 1810 was rendered null by the new one of 22 June 1866, which in 1909 underwent radical changes in the matter of franchise etc. The Constitution Act still retains its old date, though it has undergone numerous modifications in matters of detail.

The Constitution was altered in certain details through the Union with Norway (1814—1905). The actual union regulations were to have been included in the *Act of Union* (1815); but this was incomplete and in course of time gave rise to disputes which ultimately brought about the dissolution of the union.

The Act of Settlement of 1810 regulates the succession to the Swedish Crown within the family of Prince Johan Baptist Julius of Ponte Corvo. The hereditary principle is established in the male line. The King, who comes of age at 18 (as also do now the heir-apparent and his eldest son), shall be an adherent of "the pure evangelical faith" (the Lutheran Confession). The right of succession is forfeited, for instance, if a prince marries without the King's consent, or if he weds the daughter of a private man. The King can only carry on the government while he remains in Sweden. If he goes abroad, there is a regency (a prince or the Cabinet). If the King takes the field or goes to the more remote parts of the country a regency with limited powers is set up in the capital.

The Constitution Act of 1809 was designed to protect the prerogatives of the **King,** but at the same time to prevent their abuse. The King "has the right to govern the kingdom alone", but he must take his decisions in the *Cabinet (Statsrådet)* after having heard the advice of responsible ministers, the adviser's counsel being entered on the minutes. The Ministers, who are now eleven in number, must be natural-born Swedes and adherents of the Lutheran Confession: they are appointed and dismissed by the King, but are responsible to the Riksdag. Since 1876, one of the members of the Cabinet has been appointed *Prime Minister (Statsminister)* and chief member of the Cabinet. Eight of the Ministers are heads of departments and introduce matters belonging to their respective departments to the King-in-Cabinet.[1] The King presides in Cabinet in his own person and comes to a decision after the matter has been set forth by the head of the department charged with it. The ministers, as a rule, are not permitted to come to a decision by themselves; and even quite insignificant matters are brought under the King's immediate notice. The King signs the resolutions, but these have no legal force unless they are countersigned by the minister who brought them forward; and it is his duty and right to refuse thus to countersign the King's resolutions if they are at variance with the Constitution Act.

The King appoints the majority of the public officials, higher and lower, with the exception of the lowest grades. But all judges and most of the officials are undismissible except after a judicial enquiry and sentence against them. The ministers, the heads of institutions, civil and military, diplomatists, together with a number of other officials specially mentioned, are the only ones whom the King can dismiss should he find such a course desirable for the welfare of the Kingdom. Of this right, however, the Government makes very sparing use — often not once in many decades.

The King of Sweden, according to a theory that dates far back into the past, is the supreme judge; but his functions as such are conferred upon the *High Court of Justice (Högsta domstolen).* Since 1909, there has also been in existence another high court, the *Supreme Administrative Court (Regeringsrätten),* which settles appeals that may be pursued before the King in the State departments. Besides these, there has also been set up a *Law Council* (three members of the High Court and one of the Administrative Court) to report upon proposals for the initiation, repeal, amendment or explanation of laws and ordinances. The King-in-Cabinet exercises the right of pardon. The King's highest legal adviser and prosecutor is called *Attorney-General (Justitiekansler).*

The right of bestowing the dignities of nobility (countships, baronies and simple nobility) is one of the prerogatives of the King. This right, how-

[1] The eighth department (that of Agriculture) was established in 1900. Up to that year (since 1840) the members of the Cabinet were ten in number.

ever, is but seldom exercised nowadays: there have been but five cases since 1865.

The King shares the legislative authority with the Riksdag. He possesses the right of absolute veto, which, however, is very seldom exercised. The King has, moreover, one sphere of legislation of his own — that which is called *Administrative and Economic Legislation* — embracing not merely instructions or regulations for public offices and institutions but also ordinances referring, within certain limits defined by common practice, to the public economy and to industries.

Riksdag (Parliament) Buildings, Stockholm.

The **Riksdag** retained its four-chamber composition in 1809. Its defects were, it is true, clearly seen; but in the critical condition of the kingdom it was thought too venturesome to tackle the complicated problem of fixing a fresh basis of representation. The matter was thus for a time left open, and from 1830 onwards it was repeatedly brought up and discussed. In 1848, the Government brought in a bill for reforming the representation, but it was rejected in the following Riksdag. After another decade had passed, the question was taken up again; and in 1862 the Cabinet, whose leading man was the Minister of Justice, Baron *Louis De Geer*, formulated a new proposal, which was at length definitively adopted in December 1865. In the following year (22 June 1866) the new Organic Law for the Riksdag came into force. In 1909 there was carried through a far-reaching alteration of the franchise for the Second (lower) Chamber in which all property qualifications were removed; and

in connection with this change proportional representation was introduced. The conditions of membership of the First (upper) Chamber were also altered.

The *composition* and *methods of working* of the Riksdag are described in the following section. According to the fundamental law of 1809, the Riksdag was to meet every fifth year; this regulation was altered by the Riksdag of 1844—45 to every third year; according to the new law, the Riksdag assembles every year.

In case of need, the Riksdag has the right to choose a King, an successor to the throne, and a regent. It also shares the legislative authority with the King. Here it must be noted that *alterations in the fundamental laws* (proposals for which may also be put forward by the delegation of the Riksdag which is called the Constitution Committee) may be rejected at once, but can only be so far accepted that they are declared to "stand over" until the first session of the Riksdag after a new election has been held for the Second Chamber, when they shall either be adopted unamended, or rejected. *Other legislative bills* can be passed in the same session in which they are brought forward. With regard to changes in the ecclesiastical law, the *Convocation (Kyrkomötet)* has the right of veto.

The legislative power of the Riksdag embraces fundamental law, civil and criminal law, communal law, ecclesiastical law, and the criminal law as applied to the Army. In regard to the so-called "Administrative and Economic Legislation" (see above), the Riksdag can only address its desires to the King. As a rule, however, the Government takes the opinion of the Riksdag on all important questions of this nature; and it also often happens that the King invites the Riksdag to unite with him in legislating on them.

The power of the Riksdag is more comprehensive with regard to the *Budget Estimates.* The original estimates proceed from the Government; and the Riksdag does not, as a rule, vote "ordinary" (i.e., annual) grants if the proposal comes from a private member. The budget estimates are considered in detail by the Riksdag, and as far as possible, there is voted for each item of expenditure a definite sum, which may not be exceeded. Only in the event of money having been saved has the Government, in certain cases, the power of using it for purposes of a kindred nature within the compass of the department where such saving has been made. In case the Chambers have arrived at different conclusions respecting a grant, a new vote is taken of both the chambers together. In other cases, the Chambers have the power of veto over each other.

The Riksdag alone has the power of decision respecting the negotiation of loans, and, in accordance with a custom dating from 1789, it manages these matters through a board of seven members chosen by itself — the *National Debt Board (Riksgäldskontoret).* In former days the Riksdag alone guaranteed the solidity and conducted the administration of the *Bank of Sweden (Riksbanken):* but in 1897, in conjunction with the Bank's prospective assumption of the sole right of issuing notes, the King

obtained the right of appointing the chairman of the administrators of the Bank and of sharing in bank legislation. The Riksdag determines the principles upon which the *Demesnes of the Crown* shall be administered; and no alteration of the *Coinage* of the Kingdom can be made without the consent of the Riksdag.

The control of the Riksdag over the disposition of public money according to the Budget Estimates, is rendered effective by the right it has enjoyed since 1809 of examining, through the agency of its own *Auditors (Revisorer)*, the accounts of all public institutions. These Auditors now meet annually, have access to all State accounts and institutions, and are expected specially to examine whether the resolutions of the Riksdag with regard to the disposition of public money have been observed: these officials have also got into the way of expressing opinions with regard to the general administration of the State and to the advantageousness, or the reverse, of its modes of procedure, etc.

The Riksdag also exercises control over judges, officials, and civil servants, through a special law-officer, who is chosen annually, the *Solicitor-General of the Riksdag (Justitieombudsmannen)*. It is his business, not only to watch over the manner in which the law is administered and to propose measures for improvement therein, but also to see that judges and public officials do not in their official capacity infringe the rights of private individuals. If he is of opinion that such has been the case, it is incumbent upon him to summon the person in question before a court to have the matter judicially sifted. Private individuals, too, have the right of laying their case before the "Justitieombudsman", if they consider that they have suffered injustice at the hands of a judge or a public official.[1]

Finally the Ministers are responsible to the Riksdag. The Constitution Act contains detailed forms for the enforcement of this responsibility (of which an account is given below); but they have now in part become obsolete. To a certain extent a *parliamentary* form of government has in practice gradually come to prevail in Sweden: that is to say, no Swedish government at the present day can subsist unless it enjoy the confidence of the Riksdag. The general tendency of public opinion, especially in the Second Chamber, has become more and more important in this respect.

The forms prescribed in the Constitution Act concerning *the responsibility of ministers* are as follows. During the progress of each session of the Riksdag, the minutes of Cabinet proceedings are handed over to a special committee of the Riksdag, the Constitution Committee, which has to peruse them and make a formal report on them to the Riksdag. If now the Committee discover that any of the King's advisers has not discharged the duties of his office "with zeal, impartiality, and competence", the Committee notify the fact to the Riksdag, which in its turn can petition the King for his dismissal. This petition,

[1] According to decision of the Riksdag of 1914 a special *Military Solicitor-General of the Riksdag (Militieombudsman)* is to be appointed; before coming into force, however, this decision must be confirmed by a subsequent Riksdag.

however, the King is free to disregard if he think fit. If, again, the Committee discover that any of the King's advisers has acted at variance with the fundamental laws of the realm or with the public law, or has abetted any infringement of the same, or omitted to make remonstrances against such infringement, or has countersigned, in his capacity as head of his department, any resolution at variance with the Constitution Act — the Committee must bring him before a *Court of Impeachment (Riksrätt)*. The composition of this court is fixed in advance and is of a very peculiar character, inasmuch as it is composed of a number of higher judges and public officials. — Of all these antiquated regulations, however, the only one that really survives is the examination of the minutes of the Cabinet proceedings, whereby an effective control is undoubtedly exercised over the conduct of government business. In cases where serious strictures are made — a thing, however, that has very rarely occurred in recent times — they may lead to the voluntary resignation of the minister. The other measures above set forth have not been put in practice for several decades.

The members of the *High Court of Justice* and of the *Supreme Administrative Court* are also in a peculiar manner made responsible to the Riksdag. The Riksdag has the right to appoint every three years a special Committee of Opinion *(Opinionsnämnden)*, which may decide whether or not the members of these High Courts have shown themselves worthy to retain their offices. The committee does not institute any investigation, is not, indeed, at liberty to enter upon any discussion; its sole function is to express its opinion by a vote. Any member of the High Court of Justice or Supreme Administrative Court who is removed by this process, is entitled to a pension amounting to half his salary. No removal by this process, however, has yet taken place. — The Riksdag has yet another form of control over the High Court of Justice and the Supreme Administrative Court in that the "Justitieombudsman" may in certain cases arraign a member of the Court before the Court of Impeachment (see above).

The Swedish constitution is the only one in Europe, with the exception of that of England, which has been evolved by a process of independent growth on a national basis. This is sufficient to explain its many peculiar features, of which the most conspicuous have been indicated in the preceding survey. On the whole, the constitution of Sweden gives a faithful expression of the conception of law that prevail in the minds of its people, and affords a good testimony of its political maturity.

Composition and Procedure of the Riksdag.

In accordance with the new Organic Law of 1866, the Riksdag of Sweden consists of two chambers, which in all questions have equal competence and authority. Since, however, financial questions are decided by a joint revoting of both chambers in case they have separately come to different decisions, the Second Chamber, owing to the fact that its numbers exceed that of the other chamber by more than half, has a somewhat greater influence than the First Chamber in this respect. This corresponds to a state of things not uncommon in other countries, namely that the Second Chamber possesses special privileges in regard to budget questions. The manner in which each chamber is constituted may be briefly summarized as follows.

The **First Chamber** consists of 150 members, who are elected for a term of six years by the county councils *(Landsting)* of the several counties *(Län)*, as well as by the town councils of the five towns of Stockholm, Gothenburg, Malmö, Norrköping, and Gävle, which are not represented in the county councils. The members of the First Chamber are distributed among the different constituencies in proportion to their population, which distribution is regulated every tenth year.

According to the Organic Law of 1866, the number was fixed at one for every full thirty thousand of the population of the constituency. The whole number, on this basis, amounted to 125 in 1867, and 148 in 1894. In the year 1894 the number of members was fixed at 150, who, as the previous members retired or on the dissolution of the chamber for a new election, were to be elected for nine years. In 1909, in connection with the introduction of proportional representation, the period of membership was altered to six years, and it was determined which county-councils and towns should, each of the six years, elect their share of the members of the chamber. When a seat falls vacant, there is summoned for the remaining part of the retiring member's period of membership a substitute appointed by the same party (viz. the person who received the next largest number of votes). The First Chamber is thus renewed only successively: even if it be dissolved by the Government, which has so far occurred only once (in 1911), the time for beginning the various six-year periods is not disturbed.

For *eligibility* to membership of the First Chamber, the candidate must be 35 years old, and must own and, for at least three years before the election, have owned real estate having a rateable value of at least 50 000 kronor, or must pay taxes and, for at least three years, have paid taxes on an annual income of at least 3 000 kronor. The members of the First Chamber also now enjoy a salary of 10 kronor a day or 1 200 kr. for an entire session. — Before the year 1911, when the election law of 1909 came into force, the corresponding conditions of eligibility were real estate of 80 000 kr. value, annual income of 4 000 kr. As the members of this chamber did not then enjoy any salary, it was practically necessary that the member should have a distinctly better pecuniary position than the minimum qualification for the office — at all events if he were not resident in the capital. This circumstance caused the more remote läns frequently to take their representatives for the First Chamber from Stockholm, but, in that case, preferably such as had been born within the constituency in question or had for some time had their occupation there.

The constitution of the **Second Chamber** was based in 1866 on a thorough-going distinction between *country* and *town*. The whole number of members was fixed in 1894 at 230, of whom 150 were assigned to the country and 80 to the towns. Through the rise of industrial communities in the country districts and through the enlargement of the constituencies in connection with the introduction of proportional representation, however, this distinction has been substantially limited in its practical effects, so that the landed interests now exert less influence than formerly (compare the final remark pp. 205 foll.).

According to the new *distribution of seats* of 1914, Stockholm forms two constituencies with 8 and 7 deputies respectively, Gothenburg one with 7 deputies, Malmö one with 4 deputies, Norrköping and Linköping one with 3 deputies, and Hälsingborg, Landskrona and Lund one, also with 3 deputies. Thus these six urban constituencies together elect 32 deputies, The other towns are combined, by counties, with country districts so as to form 50 constituencies in all, 1—3 in each county; and these constituencies elect together 198 members, 3—6 in each constituency. The present division into constituencies is laid down in the Election Law; but the number of members which each constituency has to elect in proportion to the population is settled for each three-year period by the Government.

The Organic Law of 1866 underwent so many changes in consequence of the new regulations of 1909 that it may justly be regarded as repealed and replaced by a new fundamental law. According to the law of 1866, in the *country* every judicial district (*domsaga*) was to elect one representative; and if the district had more than 40 000 inhabitants, it was divided into two constituencies. As regards the *towns*, the largest (with more than 10 000 inhabitants) had a right to elect one representative for each full ten thousand of the population; the smaller towns were grouped together in constituencies of at least 6 000 and at the most 12 000 inhabitants each. *In fact*, the country in this manner was given one representative for about 27 000 inhabitants, while the towns were given one for about 10 000: this peculiar circumstance is explained by the need of a certain protection for the interests of the towns, which would otherwise remained in a very marked minority, since their inhabitants in 1866 numbered only 12 % of the total population of the Kingdom. In consequence of these regulations, the country had, at the Riksdag of 1867, 135 representatives, and at that of 1894, 145. The number of the representatives of the towns, on the other hand, owing to the more rapid increase of population, grew during the same period of time from 55 to 83. In order to check this inequality, the majority in the Riksdag of 1894 succeeded in carrying new regulations, according to which the number of members *was fixed* at 150 for the country and 80 for the towns.

The right to vote for the Second Chamber is now possessed by every *male* Swede of good character, without respect to means, but not till after the year in which he reached the age of 24 and not if he is under guardianship, or is bankrupt, or is liable for rates or taxes which have fallen due during the last three calendar years, or is in receipt of public assistance, or has neglected his military service.

For *eligibility* to the Second Chamber it is necessary that a man should be qualified for the parliamentary franchise and be *domiciled within the constituency*. This last requirement, which was introduced in 1866, is an expression of the Swedish people's marked dislike of professional politicians. The "constituency", however, as has already been indicated above, was enlarged in 1909 from the old limit of a judicial district, a town, or a collection of small-towns, so as to embrace, as a rule, a whole county or county-council area including minor towns. — The elections are for a

term of three years: if the chamber be dissolved (which, however, has only occurred twice, viz. in 1887 and 1914), the new elections hold good only for the remainder of the three-year term.

The mode of election to both Chambers is proportional (so, too, in the election, within county-councils and town-councils, of members of the First Chamber). The method of election, worked out by Professor E. Phragmén, is based on the Thiel method (with some modifications intended *inter alia* to counteract "decapitation". Cf. p. 206).

Table 39 contains a summary of the population, the number of persons entitled to vote, and the actual voters, in the years when elections to the Second Chamber have taken place during the period 1872—1914. The figures for the years 1911 and 1914 are not fully comparable with those of the preceding years, owing to the above-mentioned alterations in the franchise, which were put in force for the first time in 1911. After these changes had been carried through, the body of electors was more than doubled, in that it was increased from 503 000 to 1 066 000, or by 112 %. Political activity in Sweden, as expressed in the number of actual voters as a percentage of those entitled to vote, has increaced during the period covered by Table 39 from 19 % to about 70 %, i. e. it has more than trebled.

In the first General Election on the proportional system the party composition of the Riksdag was as follows. The Second Chamber (1912—14) consisted of 64 Moderates (Conservatives; Right), 102 Liberals and 64 Social Democrats; after the ordinary election in September 1914 the Second Chamber

TABLE 39. *General Elections to the Second Chamber of the Riksdag.*

Ordinary Elections	Population at end of previous year		Entitled to Vote[1]			Actual Voters	
	Total	Men 21—ω years	Total	% of Population	% of Adult Males	Total	% of entitled voters
1872	4 204 177	1 093 711	236 120	5·62	21·59	45 198	19·1
1875	4 341 559	1 115 715	255 552	5·89	22·90	49 765	19·5
1878	4 484 542	1 162 046	270 337	6·03	23·26	54 821	20·3
1881	4 565 668	1 193 454	281 163	6·16	23·56	66 591	23·7
1884	4 603 595	1 209 071	291 668	6·34	24·12	73 636	25·2
1887 [2]	4 717 189	1 253 164	278 039	5·89	22·19	99 870	35·9
1890	4 774 409	1 261 593	288 096	6·03	22·84	110 896	38·5
1893	4 806 865	1 259 224	298 810	6·22	23·73	126 691	42·4
1896	4 919 260	1 291 826	309 889	6·30	23·99	140 488	45·3
1899	5 062 918	1 340 709	339 876	6·71	25·35	136 982	40·3
1902	5 175 228	1 381 944	382 075	7·38	27·65	180 529	47·2
1905	5 260 811	1 410 202	432 099	8·21	30·64	217 759	50·4
1908	5 377 713	1 453 491	503 128	9·36	34·64	308 412	61·3
1911	5 522 403	1 501 081	1 066 200	19·31	71·03	607 487	57·0
1914 [3] (Spring) .	5 638 583	·	1 092 454	19·37	·	763 423	69·9
1914 [4] (Autumn).	5 638 583	·	1 111 960	19·72	·	735 393	66·1

[1] This means those who were effectively entitled to vote, i. e. who were *under no legal incapacity* to exercise their right to vote. The entire number of voters on the register in 1914 was 1 385 847 persons, corresponding to 24·6 % of the whole population. — [2] At the General Election in March 1887, after the dissolution of the Chamber, the number of those entitled to vote was 274 733 and the number of those who recorded their vote was 132 265, or 48·1 %. — [3] After the dissolution of the Chamber. — [4] Ordinary election in September.

(1915—1917) consisted of 86 Moderates, 57 Liberals and 87 Social Democrats. The First Chamber is composed in 1915 of 89 Moderates, 47 Liberals, and 14 Social Democrats.

Procedure of the Riksdag. The regular session of the Riksdag *(lagtima riksdag)* begins every year on 15 January in Stockholm, and has a right to continue for four months, unless the Government dissolves one or both of the Chambers and orders new elections. The four months, however, have proved to be more and more insufficient; and since 1900 the Riksdag has not been able to finish its business until after 15 May—several times not until well on in June. The Riksdag may be convened for an *extraordinary (urtima)* session by Government during the vacations; but in that case the Riksdag may only treat the subjects for which it was convened.

The *Speakers* and the *Deputy-Speakers* (*talman*) in both Chambers are appointed by the King (Government). The right of *introducing bills* falls to the Government — whose bills are called "propositions", and enjoy certain rights of preference in formal treatment — to every private member of the Riksdag, and, in certain cases, also to Committees of the Riksdag.

For the preparation of business every regular Riksdag has to appoint six **Committees,** namely, Constitution, Budget, Tax, Bank, Law, and Agriculture Committees. Of these, the *Constitution Committee* has to examine the minutes of the Cabinet and treat or initiate proposals concerning alterations of the fundamental law and of laws regulating to the local government. The *Budget Committee,* which treats the majority of financial questions, has through this function become the most important and most influential of the Committees. The *Tax Committee* occupies itself with questions concerning certain taxes called "supplies" (*bevillningar*)[1], of which the most important is the Customs supplies (protective and revenue customs-dues). The *Bank Committee* has now not only (as before) to examine the management of the Riksbank and to deal with questions of bank legislation, but also to examine the management of the National Debt Board and to deal with all questions of pensions and public assistance. The *Law Committee* deals with all penal and military legislation and also with all civil questions save those that concern legislation about Agriculture and Forests. These last matters fall to the *Agriculture Committee,* which also deals with all questions touching the landed estates of the Crown. — The number of members in the ordinary committees is in every case half from each Chamber.

For the treatment of questions which properly come under the purview of an ordinary committee, the Riksdag may also appoint one or more *Special Committees,* which often takes place with regard to subjects requiring a somewhat exhaustive examination. For the treatment of matters not belonging to the ordinary committees, each Chamber appoints for itself one or more *Select Committees,* as needed. Only if the proposals of these committees lead to a positive result in the Chamber does the question proceed to the other house.

The Committees play an important part in the Swedish Riksdag, owing among other things to the fact that the members of both Chambers work together side by side — a peculiarity of the Swedish parliament.

The discussion of any question is, as far is possible, *simultaneous in both Chambers,* for which purpose the schedule of work is, in its main points, drawn up by the so-called Chairman-conference, which consists of the Speaker and

[1] See note on *bevillningar* in the chapter on State Finances (p. 237).

Deputy-Speaker and three members from each Chamber. In the *debates*, the Cabinet Ministers are allowed to partake (if they are members of the Chamber, they can also, with a few exceptions, take part in the decisions). There are no special regulations intended to hinder "obstruction"; nor have they hitherto been found necessary. A stenographic report of the discussions is made. The voting is done with closed ballots where the decision is not made by acclamation.

If the Chambers come to different decisions on any subject whose treatment falls to an Ordinary Committee, this body must, if possible, put forward proposals for a compromise. In order that a bill may be finally carried, it is necessary to have an *identical decision from both Chambers*. (The special procedure in amending the Fundamental Laws has been described above, on page 198.) *Financial questions* are regarded as exceptions to the rule that the consent of both Chambers is necessary: in case of disagreement between the Chambers, these questions are decided by *united voting*, both Chambers simultaneously voting anew and the result being determined by the united number of votes. This arrangement, which has its root in older Swedish Constitution, has been of great practical importance, since it has checked the occurence of constitutional struggles between the two Chambers.

In a historical review of the *composition* of the Swedish Riksdag, there appear two principal peculiarities. The first is the great number of independent landowners ("homesteaders" and "farmers") that have a seat there (over 100, principally in the Second Chamber). As a consequence of the traditions of centuries, these representatives of the landowning agricultural class have become accustomed to appear in public, and have acquired a self-respect and a practical knowledge which cause them not to be inferior to the representatives of the people in any other country. — The other distinctive characteristic is the frequency in the Riksdag of *State officials* — even what are called confidential officials, i. e. heads of departments who may at any time be discharged by the Government. Not infrequently these officials place themselves in opposition to the Government, without thereby running the least risk of losing their positions — an eloquent proof of the respect of independent conviction and of the moderation which constitute such a fine fruit of the advanced parliamentary development of Sweden. Another proof of these is the temperateness and sobriety which characterize the discussions of the Riksdag, in proof whereof it may be sufficient to adduce the facts that it extremely seldom happens that any member permits himself an exclamation or objection in the speech of another member, just as it is rare for the Speaker to need to call a member to order or even to request a speaker to keep to the point. The sharper measures of correction which in the parliamentary assemblies of certain countries are of almost daily occurrence, are therefore practically unknown in the Swedish Riksdag.

Of late years a number of changes have come about in the composition of the Riksdag, and still greater changes are assuredly to be expected. For

various reasons, such as the growth of industrialism, the introduction of universal suffrage for the Second Chamber, and the extension of the local franchise — on which rests the composition of the county-councils and the town-councils which serve as electoral bodies in the election to the First Chamber — the number of Labour representatives tends to increase at the cost of the number of the representatives of the landowning agricultural class (including the peasants) of Sweden. Moreover it is manifest that, especially through the extension to the First Chamber of the practice of payment of members, that chamber also will be more and more "democratized", in that the formerly predominant representatives of large-scale industry, the landed gentry, and the official class will more and more have to give way before representatives of the ranks of "the common people" — a change in the composition of this chamber which was surely not comtemplated by the men who carried through the great reform of the representation system in the sixties of the nineteenth century.

System of Proportional Representation.

The question of proportional representation in Sweden, though carried to a solution only some few years since, is nevertheless of comparatively ancient date. As early as the national assembly of 1867 proposals were brought forward in favour of proportional representation, and at several subsequent riksdags there appeared new proposals on the subject; but none of these succeeded in attracting any considerable amount of attention, either inside or outside the Riksdag. It was not until the session of 1902, when the question of method of election was coupled with the extension of the political franchise, that it became a matter of practical politics; and during the next few years the question of "proportional *v.* majority representation" was talked about and written about with a keenness and interest which is devoted only to the most burning question of the day. The settlement of the question was reached in the session of 1907 and confirmed by the decision of the Riksdag in 1909: it was then determined that the elections to both Chambers and to their committees, to the county councils, and to the town councils, should be proportional.

The Swedish method of proportional representation, brought forward by Professor *E. Phragmén*, is a *free* method, not a *list* method: the elector has a right to vote for whatever candidates he pleases, and there are no official lists of candidates. It is distinctive of the method that it assures to the elector the right to place on his voting paper a *party-indication* (a party-name or some other verbal indication of a certain group of electors or of a certain political object). The voting papers that have the same party-indication, whether they include the same candidates or not, are regarded as belonging to one group (a party group). All voting-papers without party-indication are regarded as forming a common group (the free group). The number of seats affected by the election is divided *among* the groups according to D'Hondt's rules; and the seats that each group has received are distributed *within* that group in accordance with proportional principles, in which special attention in assigned to the order of the names in the voting-paper.

The new mode of election came into force the very same year that it was established by law, and so far (to the end of 1913) it has been employed at about a thousand elections, including the general election of 1911 to both chambers of the Riksdag. The electors seem to have found little difficulty in mastering the new regulations; and the number of voting-papers that have had to be rejected owing to the mistakes or negligences of the electors is quite infinitesimal. That the new mode of election had a task to fulfil, and on the whole has fulfilled it satisfactorily, is shown by the demands arising in various quarters for its extended application. One mode of expressing this demand is found in the motions with this object that have been brought forward in the Riksdag and have in their turn led the Riksdag to petition the Government to submit proposals for the introduction of proportional representation in the elections to communal councils and of certain boards and committees of county-councils and town-councils. And in fact the Riksdag has now passed bills which have been introduced by the Government with these objects; and these bills came into force on 1 July 1913.

Political Parties.

The first, and for a long time the strongest, party organization within the Riksdag, as that emerged from the parliamentary reforms of 1865—66, was the *Agricultural Party (Lantmannapartiet)* in the Second Chamber — a combination mainly of peasant representatives, formed as early as 1867, which looked well after the interests of their class in the parliamentary struggles of the following years on the questions of national defence and the land-tax. The *Centre,* originally a coalition of the opponents of the Agriculturals in the Second Chamber, never attained the close organization of its opponents, and underwent repeated transformations and cleavages. The unity of the Agricultural Party was also shattered, however, when the Customs question became dominant in the eighties: in 1888 its protectionist fraction formed the *New Agricultural Party,* while the free-traders rallied in the *Old Agricultural Party.* After the Customs contest had ceased, the two groups were reunited 1895; the *Agricultural Party,* thus reshaped assumed an increasingly conservative character, and now, under the name of the **Agricultural and Civic Party** *(Lantmanna- och borgarpartiet)* — which was adopted in 1912 on its amalgamation with the *National Progressive Party* that had been formed in 1906 on almost the same political principles — it forms the organized Right in the Second Chamber. The reunion of 1895 led in the same year to the rise of a distinct Left, the *People's Party,* based on the Liberal elements both in the Centre and in the Old Agriculturals. In 1900 this was merged in the **United Liberal Party** *(Liberala samlingspartiet),* which was formed in that year for the purpose of carrying through the extension of the franchise; and this party still forms the organized non-socialist Left in the Riks-

dag. The Social Democrats, who during the year 1897—1902 had only a single member, formed from 1903 a section in the Riksdag, which in 1906 adopted the name of the **Social Democratic Parliamentary Group.**

While the Liberal and Social Democratic combinations also embrace those who share their views in the First Chamber, the Right there has its own organization. *The Protectionists of the First Chamber,* who from the session of 1888 had the majority there, soon grew into a strong conservative party, which for a long time completely dominated the Chamber. The more moderate elements in the Chamber formed a minority group, which in 1905 adopted the name of the *Moderate Party of the First Chamber;* but there was no very strong political contrast between this party and the majority party (after 1910 renamed the *United Right of the First Chamber),* and when, after the election reforms of 1907—09 the number of their common opponents increased, the two parties coalesced in 1912 under the name of the **National Party of the First Chamber.**

The present (1914) chiefs of the parties are as follows. For the Right in the Second Chamber, Admiral *Arvid Lindman,* late Premier, and, in the First Chamber, *Ernst Trygger,* late Chief Justice; for the Liberals, *Karl Staaff,* Barrister-at-law, late Premier; for the Social Democrats, *Hjalmar Branting,* editor of the leading paper of the party ("Socialdemokraten").

Now and then, especially before general elections to the Second Chamber, the various parties formulate their **programs;** but these, being chiefly designed to win votes, can scarcely be regarded as containing in every respect the essential points in the opposed movements. Even the principal features of the parties vary, naturally enough, from time to time. Since the great Liberal principles of the nineteenth century concerning the individual's liberty and rights in private and public life have been, in the main, carried through, and, on the other side, economic liberalism has passed, with the development of industrialism, rather into an historical conception, the chief concerns of the *Liberal* party may now be said to be these: in the constitutional sphere, the carrying through of Second Chamber Parliamentarism, and in the social field the reforms in legislation and institutions for the benefit of the poorer classes, while in the economic sphere it now shows leanings towards State Socialism. By way of contrast to this last-named tendency, it is the *Right* that now, to a certain extent, represents Liberal ideas in the older acceptation of the term, in that with special emphasis it maintains the sanctity of private property and seeks to open out opportunities for private enterprise in the economic sphere. It especially interests itself in the improvement of industrial life, and herein wishes to find a means to elevate social conditions by the creation of better opportunities of employment. In institutional life it shows little inclination for change and wishes to uphold the real influence of the royal authority and of the First Chamber. Among the more important political questions which have been to the fore during the last few decades, the extension of the franchise has been especially pressed forward by the Left, while the Right long opposed that movement until it coupled universal suffrage with proportional representation. On the other hand the Right, at any rate in the First Chamber — where the distinctly national standpoints, e. g. in the Union question, have received their strongest expression, while the social interests have bulked less largely — has regarded care for the defence of

the kingdom as standing high above all other political questions, while the Left, as the opposition party, has, as a rule, adopted a negative and critical attitude. But by the force of circumstances it was the Right that in the end settled the franchise dispute, after which the General Election of 1911 brought the Liberal Party into power. The central problem for the new Cabinet was the question of national defence; but the difficulty of harmonizing their aspirations to alleviate military burdens whit the new aspect of world affairs, necessitating an increase of the national power of defence, caused the removal, in 1914, of the Liberals from their dominant place in Swedish politics. The program of the *Social Democrat* party connects itself with the Marxian doctrine and at the same time takes up the wishes of the manual workers in the politics of the day; and even though its supporters sometimes, as in the great strike of 1909 — though by peaceful means — have sought to set themselves above the established rules of society, yet their disapproval of bourgeois society is, in the main, of a theoretical kind. In practice, the Swedish Social Democrat party is a radical section of the Left, well disposed to parliamentary work, and after its great gains in the elections of 1914, also ready in principle to give up its negative attitude towards taking part in the burden of government, and it has shown itself able, to a very considerable extent, to work with the Liberals in the struggles against the Right; on the other side, through its bourgeois leanings it has called forth a loud-voiced opposition from its own left wing.

The sharpening of political contrasts during the last few years and the more clearly defined division of parties under the influence of the system of proportional representation have markedly diminished the band of non-party men or "free lances". In the Riksdag period of 1912—14 only one or two persons in each chamber had not formally associated themselves with any party. After the autumn elections in 1914 the party distribution was as follows: in the First Chamber, the Right 89 members, against 47 Liberals and 14 Social Democrats; in the Second Chamber, the Social Democrats 87 (64 in 1911), the Right 86 (64 in 1911), the Liberals 57 (102 in 1911). A non-political combination, to which a certain amount of consideration may be shown by all the different parties, is the Riksdag Temperance Group, consisting of members of both Chambers.

The inner organization of the Riksdag parties is approximately the same. At the commencement of a Riksdag, the various parties assemble in constituent meetings and appoint chairmen and party-councils (*förtroenderåd*) with a membership varying between 20 (United Liberal Party) and 9 (Agricultural and Civic Party). The parties as a whole often hold *party meetings* with closed doors, whose discussions and resolutions have practical gradually gained more and more importance.

Party divisions are also much more sharply marked than before in *Local Government*. The proportional system, as carried through in 1907—09, has, amongst other things, helped to make the elections to county councils and town councils follow more definite party lines; and the representatives of the three chief parties in these assemblies often associate themselves in groups or clubs modelled on those that obtain in the Riksdag.

The development in a democratic direction which characterizes the political life of our times has also increased the need and importance of *general national organizations* for the different parties in order to work up public opinion, especially on the occasion of political and communal

elections. The oldest of these is the social-democratic, the **Swedish Social Democratic Labour Party** *(Sveriges socialdemokratiska arbetareparti)*, which was founded in 1894. In 1902 the **National Liberal Association** *(Frisinnade landsföreningen)* was created as a foundation for the United Liberal Party in the Riksdag; and in 1904 the Right formed the **General Electoral League** *(Allmänna valmansförbundet)*.

These combinations also exhibit marked resemblances in their organization. The *Social Democratic* would seem to be the most firmly knit together. The party is formed primarily of *Labour Communes* allied to it; these are combined — as a rule, by counties — into *districts* having the function of carrying on electoral agitation by means of organizations within the constituencies (*Constituency Councils*). The will of the party is expressed by a *Party-Congress* chosen within the labour communes, and this usually meets every three years. The Congress chooses a *Party Council* of 23 persons and, within this body, a *Managing Committee* of 7 persons, including a specially appointed president, party-secretary, and party-treasurer, for the direct control of the party's work.

The *National Liberal Association* is managed by a *Council* of 60 persons, which from 1914 has been so composed that each of the 56 *Constituency Leagues* in which the *Local Branches* of the Association are combined yearly appoints one representative, after which the remaining four are chosen by the annual *General Meeting*. The Council appoints both its president and the *Managing Committee* of 15 men: this last itself chooses its own chairman.

In the *General Electoral League* the *Constituency Associations* form the basis of the organization. The *Supervisory Board* consists partly of 10 persons chosen by the annual *League Convention*, partly of one representative for every Constituency Association. The Supervisory Board chooses its own president and also a *Managing Committee* of at least 5 persons, which likewise chooses its own chairman.

Especially in the years of parliamentary elections, but also in elections to county councils and town councils, these organizations develop a lively outside activity, making use of the customary modes of agitation: election meetings with addresses by active politicians and specially commissioned travelling speakers, the circulation of pamphlets and other printed matter, and — to an ever growing extent of late years — personal canvass of the electors, this last being in the larger towns very elaborately organized; while the "Social Democratic Young Folk's League" (formed within the party) has introduced the motor-car as an auxiliary means of agitation in the provinces.

The distribution of votes at the general election to the Second Chamber in the autumn of 1914 was calculated by the Central Bureau of Statistics at 268 631 for the Right (188 691 in 1911), 266 133 for the Social Democrats (172 196 in 1911), and 196 488 for the Liberals (242 795 in 1911).

2. STATE ADMINISTRATION.

The administrative government of Sweden, like its political constitution, has gone through a historical development that has given it a distinctive character which is, in many respects, different from that of the states on the mainland of Europe, and which bears witness to that remarkable instinct for organization that we have already had occasion to note as a distinguishing trait of Swedish national character.

A distinctive characteristic of the State administration of Sweden is that every action on the part of any subordinate public authority can be appealed against to the next higher authority, in an exactly defined ascending scale, and finally to the Government itself. Another characteristic of the Swedish system of administration is that official documents are held to be of a public nature, so that anyone may demand a copy thereof and publish the same. The only notable exceptions are the minutes and acts of the Cabinet, and minutes of ministerial proceedings and of military causes and diplomatic documents (which are all kept back until after the lapse of fifty years), and also plans of mobilization and other military documents, the publication of which might endanger the security of the Kingdom.

Before proceeding to describe the present administrative system of Sweden, it may be well to give a short sketch of its history.

During the Middle Ages, the King was chiefly assisted in the conduct of the realm by the three great officers of state the *Lord High Steward (drotsen)*, the *Lord High Marshal (marsken)*, and the *Lord High Chancellor (kanslern)*. The first-named two originally belonged to the King's household, while the last was, as a rule, an ecclesiastic. No definite limits were fixed as to the several spheres of activity of the Lord High Steward and the Lord Marshal, but, before long, the former began to be regarded as the chief authority in affairs of justice and the latter in those of war, while the Lord High Chancellor had to draw up the King's letters and charters. These three offices were practically the only ones then existing for the Kingdom as a whole; and the first two of them, at any rate, were often in abeyance. They never had any thing in the nature of an organized department of officials under them.

The King's authority was represented in the various divisions of the Kingdom by "*Headmen*" (*hövitsmän*) and *Bailiffs* (*fogdar*), who often had a fortified castle as the centre of their districts, and who thence exercised both civil and military functions. Each of these held his district as a fief from the King on various conditions. Sometimes, he enjoyed the right to collect the revenues from the district on the sole understanding that he and his dependants should serve the Crown when need arose; sometimes, he had to render an account of his receipts, or again to pay a certain sum for his fief, the soldiers under his command being at the King's service. Sometimes, fiefs were held as security for pecuniary advances made to the Crown. These fiefs, for the possession of which there were perpetual struggles all through the Middle Ages, were not hereditary; and, although some feudal terms and usages were introduced into Sweden owing to intercourse with southern Europe, yet the feudal system itself

never really obtained a footing in the country, even though attempts to introduce it were not wholly wanting.

Gustavus Vasa (1523—60) effected a thorough change in this system of enfeoffment. The fiefs were diminished in extent and entrusted to *Bailiffs*, often commoners by birth, entirely dependent on the King; and these were subjected to a strict scrutiny of their revenues and of their administration. Between the King and his bailiffs were placed intermediaries in the persons of *Governors* (*ståthållare*). To administer the State finances, which had been materially improved at this time by the resumption of church-lands, there was established a central government office the *Treasury* (*kammaren*), whose president became one of the chief officers of state. Another prominent official instituted in the time of Gustavus and his sons, was the *Lord High Admiral* (*riksamiral*). Definite method and system had not yet, however, been introduced into the administration: everything depended, as before, on the personal influence and action of the King.

It was not until the days of *Gustavus II Adolphus* (1611—32) and *Axel Oxenstierna* (1632—44) that Sweden obtained a well-ordered system of administration; and this received its final expression in the Constitution Act of 1634, which at once placed Sweden in the first rank among the nations in respect of administration and served as a model for other states. The administration of the Kingdom was permanently centralized in Stockholm and was entrusted to the following *Five Central Boards:* Svea Hovrätt (for the administration of justice), Krigsrådet (military council), Amiralitetet (naval affairs), Kansliet (foreign and some home affairs), Räkningekammaren (finance etc.). Each of these institutions was under the presidency of one of the five great state officials: the Lord High Steward, the Lord High Marshal, the Lord High Admiral, the Lord High Chancellor, the Lord High Treasurer; and amongst the assessors were to be found other Councillors of the Realm. The *Chancery* (*kansliet*) was the most important of the five central boards: besides its own administrative work, it had to see to all the secretarial business of the government, including that of the other boards.

The Kingdom was divided into certain defined areas for civil administration or *counties* (*läns*) each under a *Governor* (*landshövding*). He was to have nothing to do with military matters; but in the border provinces Governors-General might be appointed to exercise military authority also. There were minute regulations to secure the accountability and the responsibility of officials; but these were only partially put into application.

The most important changes made in the administration during the remainder of the seventeenth century were that the number of central boards was increased, and that, during the period of absolute rule under Charles XI and Charles XII, the five high offices of state were left vacant. Moreover, the Councillors of the Realm (*riksråden*) were gradually excluded from the central boards, which thus became more independent.

During what is called the *Period of Liberty* (1718—72) this divorce between the Council (*rådet*) and the administrative central boards was carried further, and the former again became the centre of the administrative system. Government business was prepared in the Chancery; and the president of that board who was at the same time Secretary for Foreign Affairs, was the foremost member of the Council. The Chancery was now, as at an earlier period, subdivided into a number of offices, the heads of which, usually entitled *Secretaries of State,* had to introduce measures concerning their several special subdivisions.

During the *Gustavian Period* (1772—1809), the Council was abolished by the constitutional revolution of 1789; but even before that date it had already lost

much of its consequence. While the functions of the Council as regards judicial powers were now entrusted to a newly established High Court of Justice, its administrative functions were for the most part transferred to a number of higher state officials, including the Secretaries of State (*Konseljen*).

Both under the Caroline absolutism (1682—1718) and during the periods subsequent thereto until the year 1809, select commissions for special branches of the administration were appointed, whereby business was drawn away from those boards to the purview of which it really belonged. During the "Period of Liberty", the Estates also encroached in a variety of other ways on the administrative domain — for instance, by examining in detail the measures adopted by the boards and by interfering in the appointment of civil servants.

The *Revolution of 1809*, which gave Sweden the Constitution still in force, brought with it no changes of any importance in the administrative machinery. The Council, it is true, was not revived, but its place in the administration was taken by a *Ministry or Cabinet (statsråd)*,[1] consisting of nine members, the majority of whom did not represent any special branch of the administration. Business was not prepared by them, but, as a rule, by the four Secretaries of State, who brought matters before the Cabinet, but who had a seat and a vote there only when matters belonging to the branch they represented were being discussed. In 1840 this state of things was altered by the institution of the departmental system: that is to say, the ministers became heads of Departments of State *(departement)* in which Government business was prepared.

After that date the **Cabinet** consisted of ten members until 1900, when an eleventh ministerial office was created. Of these eleven members, eight are heads of departments: the three remaining members, usually termed Consultative Ministers, take part in the discussions and decisions of the Cabinet, discharge the duties of their fellow-ministers in case of their temporary absence, and assist them also in other ways, more especially in questions referring to that administrative jurisdiction, for which, since the creation of the Supreme Administrative Court, the Cabinet has remained the court of final appeal. Since 1876, when the premiership was introduced, the *Prime Minister (statsminister)* has usually held one of these three consultative ministerships; but often the headship of the ministry has frequently been combined with the headship of a department. Of the three consultative ministers two at least should have previously administered some civil office.

Government measures are decided upon by the King-in-Cabinet. The several ministers, on the other hand, cannot decide even minor matters by themselves.

[1] It seems advisable to point out that the term *Cabinet* as applied to the Swedish *Statsråd* has a widely different meaning from those which it bears in English-speaking countries: unlike the *British* Cabinet and the Cabinets of the British Dominions, for instance, the Swedish Cabinet consists of a constitutionally fixed number of members assembled under the chairmanship, not of the Prime Minister, but of the King or the Regent; unlike the *United States* Cabinet, the Swedish Cabinet includes ministers who may be members of either chamber of the Riksdag and may, whether members or not, personally address either chamber.

In the **Departments of State,** which are subdivided into special *Bureaus,* not only are cases prepared to be laid before the King-in-Cabinet, but also the decisions there arrived at are subsequently drawn up in documentary form. For each department there is a Secretary's office *(kansli).* All these offices, together with those of the Revising Judicial Office and the Attorney-General, are collectively known as the *Government Offices (Kungl. Maj:ts kansli).* Exceptions hereto are found in those divisions of the defence departments that prepare military matters relating to the chief command, i.e., such matters as the King, in the capacity of supreme commander of the military forces by land and sea, has to deal with and which are prepared by officers.

The Minister is assisted in the work of his department by an *Under-Secretary of State (expeditionschef;* in the Department for Foreign Affairs called *kabinettssekreterare),* who has to deal with, or supervise the treatment of, the business that comes before the department. Under him there are Chiefs of the Bureaus *(kanslirâd).* Lower officials are the Chief Clerk *(kanslisekreterare)* and Recorder *(registrator).* The Under-Secretaries and the Chiefs of the Bureaus are, as a rule, the persons who introduce business before the Preliminary Ministerial Conference *(statsrådsberedningen),* where business is finally prepared for the consideration of the King-in-Cabinet. In the Preliminary Ministerial Conference there take part in ordinary cases the heads of the departments and two Consultative Ministers; but in more important cases other ministers, and even all the ministers, may take part.

Since the creation of the eigth department (of Agriculture), *the apportionment of business among the Departments of State* has been regulated by the Royal Statute of 31 March 1900 and the alterations made therein. The eight Departments of State are, according to the *Constitution Act,* as follows: the Department of Justice, for Foreign Affairs, for Land Defence, for Naval Defence, for Home Affairs, of Finance, for Ecclesiastical Affairs, and of Agriculture. These departments are, in general terms, concerned with the business denoted in general European usage by the denominations given. It may, however, be mentioned that under the administration of the *Navy Department* also fall Pilots, Lighthouses, and Schools of Navigation; that the *Finance Department* has charge of Land-registration, institutions for Commerce, Industry, and Navigation, the Customs, the Central Bureau of Statistics and Civil Service Pensions; that the *Ecclesiastical Department,* in addition to Church Affairs, has under its supervision Public Education, Science and Art; that the *Department of Agriculture* exercises control over Public Forests, Crown Desmesnes, Land-Surveying, General and Geological Maps, High-roads and Posting Relays thereon the Veterinary-Surgeons and Stud-Establishments, and (for the present) Poor Relief. The *Home Department,* which corresponds to what in other countries is called the "Department of the Interior", has the superintendence of Communications, the Public Health, Insurance System and social matters in general.

The great part played by the **Central Boards of Administration** in the historical development of the Swedish administrative system has already been indicated in the short preliminary survey at the head of this article.

The Official Residence of the High Governor of Stockholm.
From the Gardens.

In our own days, their importance is somewhat less than, for instance, during the seventeenth century, though it still remains very appreciable. The greater part of the general administrative business goes through their hands; and their comparative independence both of the Departments and of the Cabinet still constitutes a characteristic feature of administrative government in Sweden. These Central Boards deal, on their own responsibility, with the affairs that properly come under their notice and have a right to come to an independent decision: they send in to the Government expressions of opinion on matters submitted to them, and also make such proposals as they see fit. Several of them have an extensive local administration under their supervision. Complaints as to their decisions may be lodged with the Government.

In former times, these administrative bodies were all arranged as *boards proper (kollegier):* that is to say, the right of decision was not confined to the head of the board, but was shared by all the members. At the

present day, however, apart from those offices that have judicial functions, only a few offices work as boards in the strict sense of the term: all those of recent date are arranged according to the *bureau-system* (i. e., the head of the board has the determinative authority), and this system has been partially applied to some of the boards of older standing in the process of reorganization. — All central boards have, as a rule, the epithet "Royal" prefixed to their names.

Another feature peculiar to Sweden is the circumstance that, side by side with these different Boards affiliated to the Government, there are certain offices and officials that are solely subject to the Riksdag and cannot therefore receive orders from the Government. This has long been the case with the *Bank of Sweden* (*riksbanken*) — whose President, however, the Government has had the right to appoint since 1898 — and the National Debt Board (*riksgäldskontoret*). Here too, belongs the *Solicitor-General of the Riksdag* (*justitieombudsmannen*), whose position has been described above (under Constitution). As has been stated above the Riksdag also appoints *Auditors* (*revisorer*) every year to revise the public accounts.

The **Local Government of Sweden**, as has been already mentioned, received what is, in the main, its present organization in 1634, when the Kingdom was divided into **counties (län)**, each having a *Governor (landshövding)* — in Stockholm överståthållare or High Governor — as the King's representative and therefore as its administrative head. The Governor is assisted by a *Chief County Clerk* (*landssekreterare*) and a *Chief County Accountant (landskamrerare):* of these the latter, as head of the County Accountant's Office, deals with fiscal and taxative matters, while the former attends to all other matters as head of the County Clerk's Office. In the absence of the Governor, these two officials exercise his functions jointly, the right of decision resting with the one under whose department the case in question falls. — The number of the *läns* (including the City of Stockholm) is 25.

In the administration of the *läns* a strict difference is made between town and country. In the **towns** (with the exception of Stockholm, which forms a län of itself) the highest authority under the Governor is the *Magistracy*, consisting of the Mayor — in Gothenburg, two Mayors — and Aldermen. The latter are elected by the townspeople: as are also the Mayors, though in their case the Government appoints to the post one of the three candidates at the top of the lists as elected by the town.[1] The Magistracy also forms a lawcourt of first instance. The towns of Öregrund and Östhammar have one Mayor in common. Borgholm, Haparanda, and the seven last places that were raised to the rank of a town are subject, in judicial matters, to the provincial courts.

The **rural districts** in each *län* are subdivided for administrative purposes into a number *Bailiwicks (fögderier)* with a *Bailiff (kronofogde)* at the

[1] It must be remembered that a *Mayor* in Sweden is a professional lawyer and retains his (salaried) post for life or until pensioned off.

head of each, while a bailiwick is divided into a number of *Constablewicks (länsmansdistrikt)* under a Constable. In the bailiwick alongside of the bailiff, there is a *District Clerk (häradsskrivare)*, charged with the special duty of drawing up the assessment-rolls for rates and taxes. The total number of bailiwicks in Sweden is 117, of constablewicks, 518, with a population averaging 35 300 and 8 000 respectively. South of the Dalälven a bailiwick comprises, on the average, 1 645 sq. km and the constablewick 420 sq. km; but in the northern läns the area of both is much greater.

In the City of *Stockholm* the High Governor is assisted by a Deputy-Governor, who takes his place in the event of his death or absence. The business falling within the scope of this office is allotted to three departments: for secretarial work (under a Chief Clerk), for the collection of taxes (under a Chief Accountant), for matters of police (under a Superintendent of Police and a Police Magistrate). The Magistracy in Stockholm, as in the other towns, consists of the Mayor and Aldermen, there being this difference, however, that the latter are appointed in the capital by the method as is applied solely to the Mayors of other towns (see above).

The chief functions of the county-administrations are the maintenance of order and the collection of taxes, especially of the direct taxes. By their side, and to some extent cooperating with them, there also exist, as has been mentioned above, local executives for special purposes (Customs, Post Office etc.), subordinate to the central boards.

State Officials in Sweden enjoy an unusually independent position, which is unaffected by political fluctuations and also by the possible caprices of superiors. All judges, and most of the other officials too, are *irremoveable:* that is to say, they cannot be removed from their posts except after inquiry and sentence upon misconduct, nor can they be moved from one locality or post to another, except by their own consent. Ministers, Under-Secretaries of State, most of the heads of central boards of administration, etc., officials in the Foreign Office, and officers in the army of high rank, including even commanders of regiments and corps, are the only officials who can be dismissed by the King, when he considers it necessary in the interests of the Kingdom; but the case must always come before the Cabinet. Instances of such dismissal have occurred, it is true, but they are very few in number. — On the attainment of a fixed age, usually 67, a public official is bound to retire from service, but is entitled to a pension.

Though a public official in Sweden enjoys a large measure of independence, yet his work is subjected to control. For a very long time provisions have existed for a careful inquiry to be held into the disposition of public money. This inquiry is conducted on the one hand — and in detail — by the *Audit Court (kammarrätten)* in Stockholm, and on the other by the *Auditors (revisorer)* annually appointed by the Riksdag. Shortcomings in the exercise of their duties on the part of judges and

other officials are dealt with by one of two officials: the *Attorney-General (justitiekanslern)*, an officer of State appointed by the Government, and the *Solicitor-General of the Riksdag (justitieombudsmannen)*, appointed by Riksdag. The Press, whose extensive liberty is ensured by a special fundamental law, also contributes to the prevention of evil practices on the part of public servants.

In the *filling up of vacant posts*, merit and ability are to be the sole grounds to be considered; in appointing to the subordinate posts, attention is generally paid to the number of years' service the several candidates have to show. With the exception of the lowest offices it is generally requisite to have obtained university degrees, or else ordinarily to have passed the "Student"-examination, in order to enter the service of the State. Officials are, a great part of them, *appointed* by the King-in-Cabinet, subsequent (except in the case of higher officials) to formal application as soon as the post has been publicly declared vacant. The *remuneration* received is usually apportioned partly as a "salary proper", partly as "supplementary payment in regard to place of service", and partly as "payment for time of service"; and this last-named may be drawn only during such time as the official in question is actually at work — with compensation for the portion of his remuneration which he loses during his holidays. The salaries in most of the central administrative boards, as a rule, are in three grades: 4 000, 5 800 and 8 100 kr. (of which 2 200, 3 600 and 5 000 kr. respectively are regarded as salary proper), with periodic increments. These last are as follows: in the lowest grade, three increases of 500 kr. each, after five, ten, and fifteen years; in the intermediate grade, two of 500 kr., after five and ten years; and in the highest grade, one of 600 kr. after five years. The heads of central administrative boards generally receive from 9 000 to 11 000 kr. Only in the case of some few administrative officials, including the provincial governors, is the remuneration higher. Ministers receive 15 000 kr., if without a department; 17 000 kr., if with one. The Foreign Minister has 24 000 kr. and his residence free. The Prime Minister receives an additional sum, bringing his total emoluments to 21 500 kr. — The pension consists of the amount of the salary proper plus the periodic increment, but without the supplementary payments for time and place of service (see above); the pension for a head of a board is, as a rule, 6 000 kr.; the highest pension is 8 000 kr.

For persons in the *local administration* (such as the Customs, the Railway Service, the Post Office etc.) and for teachers, military and naval officers and others, the amount of remuneration and pensions, and the regulations concerning age of pension vary considerably. In many of these bodies and services the position of members of the staff is not quite so independent as is usually the case with Swedish officials, inasmuch as in certain cases an official may be moved from place to place without his own consent.

Proposed Reorganization of the State Departments.

On 11 December, 1908, there was appointed a special committee — the *Departments Committee* — for the reorganization of the State Departments; and this body issued its report on 31 December, 1912. The report contains thorough-going and noteworthy proposals for the central administration of Sweden; but as these proposals have not yet reached their final stage, a detailed account would appear to be out of place in the present edition of this work.

Official Statistics.

Sweden is "the classic land of demographical statistics". But in many other departments, too, Swedish statistics are of notable value and ancient origin. The cause of this is to be sought in the high level early attained by the public administration in Sweden, as has been shown in the immediately preceding pages.

The comprehensive collections of highly valuable statistical material, throwing light on the development of centuries, that is preserved in Swedish archives, has so far been only to a slight extent subjected to scientific (historico-statistical) treatment.

The oldest statistical series are the *Exchequer Rolls of the old Treasury or Kammarkollegium* (bailiwick and customs records, etc.) from the middle of the sixteenth century. It was on this material that H. Forssell based his pioneer works on the agriculture and population of Sweden during the latter half of the sixteenth century. It is to be regretted that it has not been possible to extend these researches to 1620—30 (and 1630—40), when the taxation statistical material referring to agriculture, trade and population is perhaps more abundant than for any other period.

In the *Provincial Archives*, which have been established since the turn of the century, we possess rich and varied statistical material regarding population in the *parish registers*, which were previously difficult of access; and so far this material has not been worked through, at any rate it had not before the appearance of official statistics in the middle of the eighteenth century. The keeping of church records began comparatively late in Sweden. The first episcopal ordinance on the subject was issued in 1608, for the archiepiscopal diocese, and merely prescribes the keeping of baptismal and marriage registers. The keeping of church records seem to have received an impulse in Europe with the Reformation; as in Sweden, at the beginning of the seventeenth century, the chief importance was attached to the baptismal registers — which were intended, as we are especially told, as a protection against the Anabaptists. The oldest known church register still extant (containing demographical statistics) is that of the church of the Holy Trinity in Uppsala, dating from 1608. Apart from this, there are but few such old church registers preserved from the archiepiscopal diocese. For the diocese of Västerås there have been preserved several church registers from as early as 1620—30, often with extremely copious contents, in accordance with a detailed printed formulary drawn up by Bishop Johannes Rudbeckius. For the period 1620—40, these can be supplemented in many important respects (especially as regards moral statistics) from the diaries of Rudbeckius and from the minutes of the cathedral chapter. Shortly after 1630, ordinances were issued for the keeping of church registers in the diocese of Linköping. Several fairly detailed registers of the kind have been preserved from this period (and also, as in the case of the diocese of Västerås, burial registers), and even a few ones of older date, one being from 1616. Specially valuable is the information given as regards causes of death (epidemics etc.) in some of these older church registers (before 1686). As those who fell in war are usually missing in the burial registers, however, the figures relating to mortality in the years of war are seriously incomplete. It is all the better, therefore, that from about 1630, these records can generally be supplemented from the *rolls of the killed* recorded by parishes in the *Military Archives*, which also give information regarding the date and the battle — thus forming what is assuredly a perfectly unique source of information. Unfortunately, the corre-

sponding series in the Naval Archives are not of the same value. After the Ecclesiastical Law of 1686 established in a statuary form for the whole kingdom — still valid in essentials — a system of ecclesiastical record-keeping which was found locally here and there somewhat earlier, we have a tolerably uniform set of demographical statistics for the whole country.

Abundant statistical material as regards legal, especially criminal, proceedings can be obtained from the *court records* in the *National Record Office* and in the *Provincial Archives* and from the *fines-rolls* in the *Archives of the Kammarkollegium.*

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The official system of statistics in Sweden can trace its origin so far back as 1749, when there was established the so-called **Tables Archive** *(Tabellverket)* which intended the collection, from all the parishes in the kingdom, of information concerning births, marriages, deaths and the causes of death, and also concerning the number of the inhabitants of the country, the increase or decrease of the population, and its classification according to sex, age, civil status, occupation, etc. At the same time, the diocesan authorities were enjoined, in accordance with the Ecclesiastical Law, to see to it that the clergy kept correct registers referring to catechetical meetings, both children and adults, with the specification of age, and that those who were baptised or who married, died or moved elsewhere should immediately be entered in their respective columns so that the incumbent should be able in some few hours to make out the prescribed tables. The establishment of the Tables Archive had been preceeded by certain preliminary measures. Thus as early as 1737, orders had been given to send to the newly-constituted Health Commission lists or tables for the following year, setting forth the persons born or dead in each parish; and in the previous year the making out of similar tables had been enjoined for the years 1721—35, in accordance with a model table drawn up for the diocese of Linköping by *Erik Benzelius,* then bishop of Linköping and afterwards archbishop. The lists thus ordered in 1736 and 1737 seem to have come in very irregularly and to have been very defective. This was due to various contributary circumstances, such as the disinclination of the clergy for such unaccustomed and troublesome work — we even hear of religious scruples against the tabulation and references to God's displeasure with king David when he was going to number the people — the disorderly condition of the church registers in some places (chiefly in Finland, however), and the laxity of ecclesiastical control. Hence they did not arouse any great degree of interest, nor were they to any great extent actually prepared.

The Tables Archive of 1749 came into existence with the interested co-operation of the Academy of Sciences — which, ever since its establishment just ten years previously, seems to have had its attention directed on the demographical statistical material accumulated in the church registers *(Benzelius* had belonged to the Academy since 1740) — and especially of

the secretaries of the Academy, the mathematician *Pehr Elvius* and the astronomer *Pehr Wargentin.*

In 1756, the compilation of an abstract of the tables was entrusted to a special **Tables Archive Commission,** which should seem to be justly described as the *oldest statistical office in the world:* it continued to work for more than hundred years. (The establishment and early work of the Tables Archive was treated in two articles contributed in 1900 to *Fennia* by A. Hjelt). The Tables Archive Commission published its first printed report in 1818 (covering the years 1811—15).

The general population table of 1749 should seem to merit the name of the *oldest census in the world.* Information as to the number of the population was rendered yearly until 1751 (inclusive), every three years between 1751 and 1775, and from 1775 to 1860 every five years. Even though not a few errors have crept both into the parish-tables and into the tabular abstracts (in particular into the oldest ones), yet these population tables are to be regarded as perfectly unique, not only for their own time but for much later times, in respect both to reliability and wealth of detail; this holds good in particular about the information regarding ages. They form an epoch in the population statistics not only of Sweden but of the whole world. It cannot even be said of them, as of the tables of vital statistics, that they are in the main founded on the long established keeping of ecclesiastical records. It is true enough that the Ecclesiastical Law of 1686 prescribed in general terms the keeping of registers referring to catechetical meetings; but to judge by chance specimens of these records, no such have been compiled in a suitable form to serve as basis for censuses until the Tables Archive was instituted; and the same holds true of the Removal Registers. Though, from the standpoint of population statistics, the new catechetical meetings registers, especially as regards removals, were still for some time after 1749 kept in a rather unsatisfactory manner (from a statistical point of view) in certain places, yet they may be regarded as the most priceless treasure of all old Swedish rough statistical material relating to demography. In the main they have formed the basis of tables of population; in many important respects — notably in the matter of marriage-fecundity — they would be able to supplement these admirably; and for the most part the Swedish catechetical meetings registers of the present day are still the same. To work them up systematically, however, would probably involve serious difficulties, especially as they are still not indexed in a quite satisfactory statistical manner. The general tables of the Tables Archive are preserved in the Archives of the *Central Bureau of Statistics.*

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In the new formularies which were established for the Tables Archive in 1802 there were introduced a number of economic specifications, chiefly with reference to agricultural conditions (sowing, harvest, domestic animals, acreage of open country), which were given for the last time in 1820. In the same year the provincial governors were ordered to send in, every fifth year, reports of the condition of the counties, especially as regards growth or decay of agriculture, cattle-breeding, and "all other industries". The regulation goes back to similar regulations in the eighteenth and seventeenth centuries (even as far back as the Constitution Act of 1634; there are preserved Governors' reports to the Kammarkollegium from the period 1620—30). In 1821, a Royal Letter prescribed the

forms for the *Quinquennial Reports of the Governors of the Läns;* and from the period 1818—22, these were regularly made, and even published down to the period 1901—05 (see below). Especially for earlier times these constitute a primary source of knowledge of the general condition of the different läns and of the whole kingdom, particularly as regards agriculture.

Among other official statistical series of older date may be mentioned the following: *the yearly Mining Reports of the Board of Mines* (printed from 1833 onwards; also various unprinted reports from the latter half of the seventeenth century); *Board of Trade Reports on Factories and Manufactures* (printed from 1830 onwards; during the "Period of Liberty", unprinted parliamentary reports; from 1802, yearly accounts); *Board of Trade Reports concerning Commerce and Navigation* (printed from 1831 onwards; previously the Customs Office had returned brief reports of a similar nature); the *Minister of Justice's Statistical Reports* (printed from 1830 onwards). At the end of the forties and the beginning of the fifties of the nineteenth century, there began to appear *Statistical Reports on Prisons* and *Public Health.*

On Swedish official statistics in the middle of the nineteenth century the general judgement may perhaps be passed, that, with the exception of the demographical statistics, which were in the hands of a special scientific institution, they were somewhat devoid of plan.

In order to produce a plan for an orderly system of official statistics there was appointed in 1854 a Statistical Committee, which issued its report in 1856. This report in important points was made the basis of the present organization of Swedish official statistics from 1858. The Tables Archive Commission was dissolved and was replaced by the Central Bureau of Statistics and the Statistical Preparatory Commission; the latter consultative authority was reorganized in 1886, under the name of Statistical Tables Commission (the course of the reorganization is only given in summary). It was further arranged that all statistical reports should be published in a similar format under the common title of *Contributions to the Official Statistics of Sweden (Bidrag till Sveriges officiella statistik)*, with a special letter for each subject or group of subjects. The collective work thus named finally comprised the following publications:

A) *Population and Vital Statistics*, from 1851 onwards (the first report, for 1851—55, was published by the Statistical Tables Commission);

B) *Justice*, from 1857 onwards;

C) *Mining*, from 1858 onwards;

D) *Manufactures*, from 1858 onwards;

E) *Inland Navigation and Commerce*, from 1858 onwards (entitled *Navigation* from 1895 onwards);

F) *Foreign Commerce and Navigation*, from 1858 onwards (entitled *Commerce* from 1895 onwards);

G) *Prisons*, from 1859 onwards;

H) *Quinquennial Reports of the Governors of the Läns* (with an abstract for the whole Kingdom), from the period 1856—60 onwards (the reports ceased after the 1901—05 period);

I) *Telegraphs (and Telephones)*, from 1861 onwards;

K) *Hygiene and Hospitals*, from 1861 onwards;

L) *State Railways*, from 1862 onwards (the reports from 1865 onwards also contain information concerning the private railways);

M) *Post*, from 1864 onwards;
N) *Agriculture and Cattle-breeding*, from 1865 onwards;
O) *Surveying*, from 1867 onwards;
P) *Public Instruction*, from 1868 onwards;
Q) *Crown Lands*, from 1870 onwards;
R) *Elections*, from 1871 onwards;
S) *Public Works*, from 1872 onwards;
T) *Pilots and Light-houses*, from 1873 onwards;
U) *Local Government Poor Relief and Finance*, from 1874 onwards;
V) *Spirits, Beet-Sugar, and Malt Liquors*, from 1873 onwards;
X) *Salaries and Pensions in the Administration*, from 1881 onwards;
Y) *Savings-Bank*, from 1893 onwards;

Some of these categories, however, regularly received official, statistical treatment, even before being incorporated in this comprehensive work.

The 1854 Committee proposed, amongst other things, that the Central Bureau of Statistics ought, by the issue of a periodical, "with greater rapidity than through the ordinary official press publish statistical news of more general interest and communicate the main results of more extensive tabular returns etc." This periodical, which has been issued ever since 1860 under the name of *Statistisk Tidskrift* (The Journal of Statistics), has contained proposals, reports, and royal decisions concerning official statistical investigations and summaries, brief surveys of the great official reports, statistical monographs on various subjects, and brief statistical information from foreign countries, etc. Further, the periodical has from 1871 given an abstract of the whole mass of official statistics, and from 1907 a collection of statistical matter illustrative of economic conditions of the preceding year; finally also comprehensive international surveys (thus forming a precursor to G. Sundbärg's "Aperçus statistiques internationaux"). According to regulations of 1911 (see below) this journal is to stop publication (in the main superseded by other publications of the Central Bureau: Statistical Year-book, Occasional Statistical Investigations, etc.).

After the Riksdag had, in 1897, appropriated a special grant for the institution of statistical investigations concerning Labour, the series of *Labour Statistics* published by the Board of Trade commenced (the first number was issued in 1899). In 1903 there was set up within the Board a special *Labour Statistics Branch*, under the direction of a first actuary; and this body — in addition to the Labour Statistics series — began in 1903 to publish a periodical named *"Meddelanden från K. Kommerskollegii avdelning för arbetsstatistik" (Board of Trade Labour Statistics Branch Returns)*. By the resolution of the Riksdag in 1912 the Labour Statistics Branch was converted into an independent department — the Royal Social Board (see below).

Ever since 1910, when a Statistical Committee appointed in 1905 made its proposals for statistical reorganization, both the official statistics and the statistical offices have been in course of rearrangement.

The regulations of 1911 provided that Swedish official statistical literature shall appear in octavo (the "Contributions" were in large quarto), divided into two series — *Official Statistics of Sweden (Sveriges officiella statistik)* and *Statistical Returns (Statistiska meddelanden)*.

The former comprises for the present the following principal divisions: *Synopses of the Development of the Kingdom; Population; Hygiene and Hospitals; Real Property; Surveying; Agriculture and Cattle-breeding; Forestry; Industry and Mining; Commerce; Navigation; Pilots; Public Road and Water Construction works; Highways and Posting Stations; Railways; Post; Telephones and Telegraphs; Savings-Banks; Insurance; Pious Foundations; Social Statistics; Poor Relief; Justice; Prisons; Education; General Elections; Finances; Local Government.*

The second series comprises for the present the following sub-series:

Series A. *Occasional Statistical Investigations;*
Series B. (not yet assigned);
Series C. *Monthly Trade Statistics;*[1]
Series D. *Railway Statistical Returns;*
Series E. *Banking Returns;*
Series F. *Social Returns.*

The Swedish official statistics are in the hand of many various Boards; the task of obtaining uniformity rests with the Statistical Tables Commission (under the presidency of the Chief of the Central Bureau of Statistics). The principal organs for the elaboration of these statistics are at present, the *Central Bureau of Statistics,* the *Industrial Statistics Section* of the *Board of Trade,* and the *Social Statistics Section* of the *Social Board.*

According to the instructions of November 7, 1879, November 22, 1912, September 19, 1913 and November 17, 1914 the function of the **Central Bureau of Statistics** is to perform the statistical work which is not under the care of any other office, including in particular statistics relating to population, real property, agriculture, fisheries, highways and posting stations, private savings-banks, justice, elections, and finance. Moreover, the Central Bureau has to issue a statistical year-book and to elaborate a quinquennial survey of the development of the Kingdom during the preceding five years etc.

From 1913 onwards, the Industrial Statistics Section of the **Board of Trade** has been re-organized, in accordance with the instructions dated November 22, 1912, as an independent bureau whose function it is to edit the yearly reports concerning commerce, navigation, mining, and industry, to look after other matters in the sphere of industrial statistics, for instance, special investigations on industries (cf. also note below), and to keep an industrial register.

The **Social Board** (which was evolved, as shown above, out of the Labour Statistics Branch of the Board of Trade) has imposed upon it by the instructions of November 8, 1912 "to collect and arrange information, and to carry out statistical and other investigations concerning both labour

[1] The principal title is "Swedish Imports and Exports of Certain Goods". The publication now forms part of the *Commercial Returns* issued (since 1914) by the Board of Trade, and also containing accounts of the more important business transacted by the Board and especially preliminary statements from its industrial statistics; the reports of consuls, commercial *attachés,* and the like; surveys of the economic situation ("Crisis Barometer"); reports of various Commodity and Money markets; and notices touching industrial life and industrial policy.

conditions within various branches of employment and other questions falling within the province of the office". The Board is organized in four bureaus, of which one for social statistics. The statistical publications of the Board are entitled "Social statistics" and "Social Returns". Alongside of the Board there is to be a *Social Council*, having as its functions to give its opinion and to make suggestions as regards matters referred to its consideration, and also generally to assist the Board with information and practical proposals. One of the sections or committees of that Council deals with social statistics and consists of five members (two representatives of employers, two of employees, and a fifth member), with the same number of deputies.

With regard to the other statistical sections appertaining to the different departments or offices, it suffices to mention the following.

The preparation of *Judicial Statistics* was entrusted to a special bureau for the statistical business within the Department of Justice ever since the establishment of that department in 1840; from 1914, this branch of statistics is transferred to the Central Bureau of Statistics. The issue of *Educational Statistics* is entrusted to a secretary in the Ecclesiastical Department. The statistical publications of the *Railway Board* are managed by a statistical office under a First Actuary; and it is a First Actuary, too, that edits the *Postal Statistics.*

Here a few words may be added about **communal statistics.** This branch of public statistics has not, as a rule, been taken out of the hands of the local administrative authorities in Sweden, with the exception of *Stockholm,* where there has been constituted on a broad basis a special statistical office, the *Municipal Bureau of Statistics of Stockholm* (1905), whose functions, according to its formal instructions, are "to collect, treat scientifically, and publish particulars illustrative of the corporate life, administration, and social and economic conditions of Stockholm". Owing to the fact that the functions of the office have been formulated in such general terms, business of very varied kinds has been gradually handed over to the management of the office, whose field of activity has thus been extended considerably beyond the sphere of statistics proper.

In *Gothenburg* the communal statistical organ consists of a permanent statistical commission; and in *Malmö,* too, a similar institution is at work and consists of a commission for the issue of a communal year-book.

It would thus seem as if the governing bodies in Swedish towns are beginning to perceive more and more clearly the importance of a really organized service of communal statistics for a well-ordered communal administration.

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Some account is given below (see "Statistics") of the persons who have been, or who are, prominently active in the domain of the science of statistics.

Official Cartography.

When, on 4 April 1628, King Gustavus Adolphus issued "Instructions to Andreas Buraeus General Mathematician, wherein his official duties chiefly shall consist" — in which instructions the king says that, whereas his cares are directed not only to the defence of his realm against enemies but also to their internal advancement, he would fain have a "synopsis wherein the situations of all His Royal Majesty's provinces and towns could be set before the eye in order that thereby His Royal Majesty could thereafter the better survey and ponder what and how each part stood so as to repair and amend the same" — then too was laid the foundation of the official institutions which now execute the surveying, topographical, economic, and maritime maps of Sweden.

The **Land-surveying Service** *(Lantmäteriet)*, whose pedigree extends still further back, — for land-measurement is spoken of in the oldest laws of Sweden — may thus be said to be the mother of the other Swedish cartographical institutions. The geometrical maps that have been, and are being, constructed by the Land-surveying Service form the main framework of the geographical land-maps.

Now, however, the work of the Land-surveying Service is exclusively confined to the legal repartition of land *(laga skiften)*: that is to say, lands that either are unapportioned, or have already been apportioned but with the holdings intermixed, are rearranged in as large blocks as their nature and situation can possibly allow without detriment to any of the sharers. To this is added the obligation to make out and keep a land-register. In the läns of Norrbotten and Västerbotten the Land-surveying Service has also still to manage what is called delimitation, with the object of separating cultivable land from the State-forests and assigning it to private owners.

At the head of the Land-surveying Service stands the *Survey Board (Lantmäteristyrelsen)*, consisting of a director-in-chief, two bureau chiefs as members of the board, and a staff of clerks.

The Land-surveying staff in the läns consists of a chief surveyor in each län, district-surveyors (one for each of the land-surveying districts, which at present number 110), 40 extra surveyors, a manager and four surveyors for alienation, amanuenses, auscultants, and pupils.

In each county-town there is a land-surveyor's office, where are kept both the maps and documents which the current regulations require to be deposited there, and also the land-register with the documents appertaining thereto.

The maps which are executed by the land-surveyors are made out on the scale of 1 : 2 000 in the survey of building-lots, fields, and meadows that have such a varied intermixture of holdings or are divided into such small plots that the adoption of a smaller scale would involve confusion or insecurity; on the scale of 1 : 4 000 in the survey of fields and meadows with fewer intermixtures or larger plots and of woodland with many intermixtures; and on the scale of 1 : 8 000 in the survey of woodland with a smaller number of intermixtures.

The originals of both maps and descriptions are handed over to the county land-surveyor's office, one copy to the landowner, and another copy to the archives of the Survey Board at Stockholm.

The **Swedish Ordnance Survey.** The making of geographical maps of the kingdom, which had at first been a duty of the Land-surveying Service — which thus had to draw up maps not only of parishes and hundreds, but also of provinces and läns and a general map — gradually came to a standstill and — with the exception of the parish maps, which were produced by the Land-surveying Service down to 1859 — was taken over after 1788 by a private person. Baron S. G. Hermelin, who did so much for the development of Lappland, began in 1796 to publish at his own expense a complete county atlas of Sweden and Finland, the copperplates of which were in 1823 bought by the Swedish State.

S. G. Hermelin.

Before that, however, in 1805, on the initiative of Colonel, afterwards General, Baron G. V. af Tibell, there had been established the Land-surveying corps to execute topographical maps of the country. This corps, afterwards called the Topographical Corps, passed in 1873 into the *Topographical Section of the General Staff*, the head of which became at the same time head of the *Economic Map Office* established in 1859. This institution was intended to continue the above-mentioned parish maps, made out by the Land-surveying Service; and its object was to obtain a certain knowledge of the area of the kingdom, and its distribution from an economic point of view (ploughland, meadow, forest etc.).

In 1894 the Topographical Section of the General Staff and the Economic Map Office were amalgamated to form the *Swedish Ordnance Sur-*

vey, which was placed under the direction of the head of the Topographical Section of the General Staff.

The Ordnance Survey, whose function is to draw up and publish geodetically based economic and topographical maps of the kingdom with the necessary descriptions, works in three sections — a geodetic and a topographical section, and a section for economic and fundamental maps.

The staff, including the head, consists of 5 officers of the General Staff, several officers and non-commissioned officers from the Army told off for the purpose, the professor of the General Staff, 2 observators, 6 geodeticians, a superintendent of the economic and fundamental maps, 18 cartographers, 3 civil topographers, 12 male engravers and draughtsmen, 8 female draughtsmen, aspirants and a treasurer.

Both the economic and the topographical measurements are based on the fundamental maps taken over from the Land-survey maps and joined together with the help of triangulation properly supplemented by actual measurements in the field.

The economic maps are drawn on a scale of 1 : 20 000, the topographical maps on a scale of 1 : 50 000, except in various parts of northern Sweden, where the scale is 1 : 100 000.

The economic maps have so far been issued according to the hundreds *(härad)* on a scale of 1 : 50 000 — or, exceptionally, on a scale of 1 : 100 000 — and since 1871 only on condition that the provincial agricultural society or the county council make grant in aid. The maps are accompanied by descriptions. For the läns of Malmöhus and Västmanland the economic maps are on a scale of 1 : 20 000.

Economic hundred-maps on a scale of 1 : 50 000 have been published for seven läns; on a scale of 1 : 100 000 for a number of assize-divisions in the län of Norrbotten; and for the upper assize-divisions in the hundred of Älvdal in the län of Värmland.

Plans are at present under discussion for the publication at the State's expense of economic maps in polyconic projection on a scale of 1 : 20 000, of the whole country, with the exception of Lappland, in the course of fifty years.

The topographical maps published for the southern part of the country are on the scale of 1 : 100 000 in rectangular sheets with the meridian 5° west of Stockholm as the point of departure; for the northern part of the country the scale is 1 : 200 000 (polyconic projection). The approximate border-line of the two scales of publication is formed by parallel 61° 30′. A small region north of this parallel along the coast of the Gulf of Bothnia has been published on the scale of 1 : 100 000 (polyconic projection). The maps on the 1 : 200 000 scale north of the parallel 63° 30′ are economico-topographical, that is to say, they include not only indications as to the nature of the ground but also economic features (see the map on p. 230 showing the divisions adopted, where is set forth the state of things existing in the middle of 1914).

On the basis of the topographical maps the Ordnance Survey is preparing an orographical map of Sweden on the scale of 1 : 500 000 in 15 sheets, of which 11 have so far been published. There have also been published a general map on the scale of 1 : 1 000 000 and county maps on a scale of 1 : 200 000 for 11 läns (publication of which was discontinued in 1879).

The **Nautical Chart Office** *(Sjökarteverket)*. The functions of the old Land-surveying Service included coast and marine surveys. Fairly soon, however, this work was also taken over and performed by private persons. It was in 1756 that the State took over marine surveys by ordering the Board

of Admiralty to draw up sea charts. A number of these were published by the Nautical Survey Corps established in 1808. This was succeeded by the Nautical Chart Archives, and in 1849 by the Nautical Chart Institute *(Sjökartekontoret)*, which in 1871 was renamed the *Nautical Chart Office (Sjökarteverket)*.

The staff of the Nautical Chart Office consists of a head (a staff-officer in the Navy), officers and non-commissioned officers told off from the Navy, an actuary with geodetic training, and a staff of clerks. For the execution of marine surveys the Navy furnishes any other helpers that may be required and also ships that may be needed over and above those belonging to the Office.

The charts published by the Nautical Chart Office fall into three groups: "passcharts" for open-sea navigation on a scale from 1 : 300 000 to 1 : 550 000; coast-charts for navigation along the coasts on scale of 1 : 200 000 or 1 : 250 000; and special charts for navigation among the coast-islets or putting into the coast on the scales of 1 : 50 000 and 1 : 100 000. To these must be added a route-chart of the Baltic Sea and neighbouring waters on the scale of 1 : 1 500 000.

The Nautical Chart Office also publishes sailing descriptions called "Svenska lotsen" (the Swedish Pilot), embracing the fairways off the coasts of Sweden, and "Mem—Göteborg", embracing the Göta Canal, the navigable channels of Lake Vänern, the Trollhätte Canal and the River Göta älv.

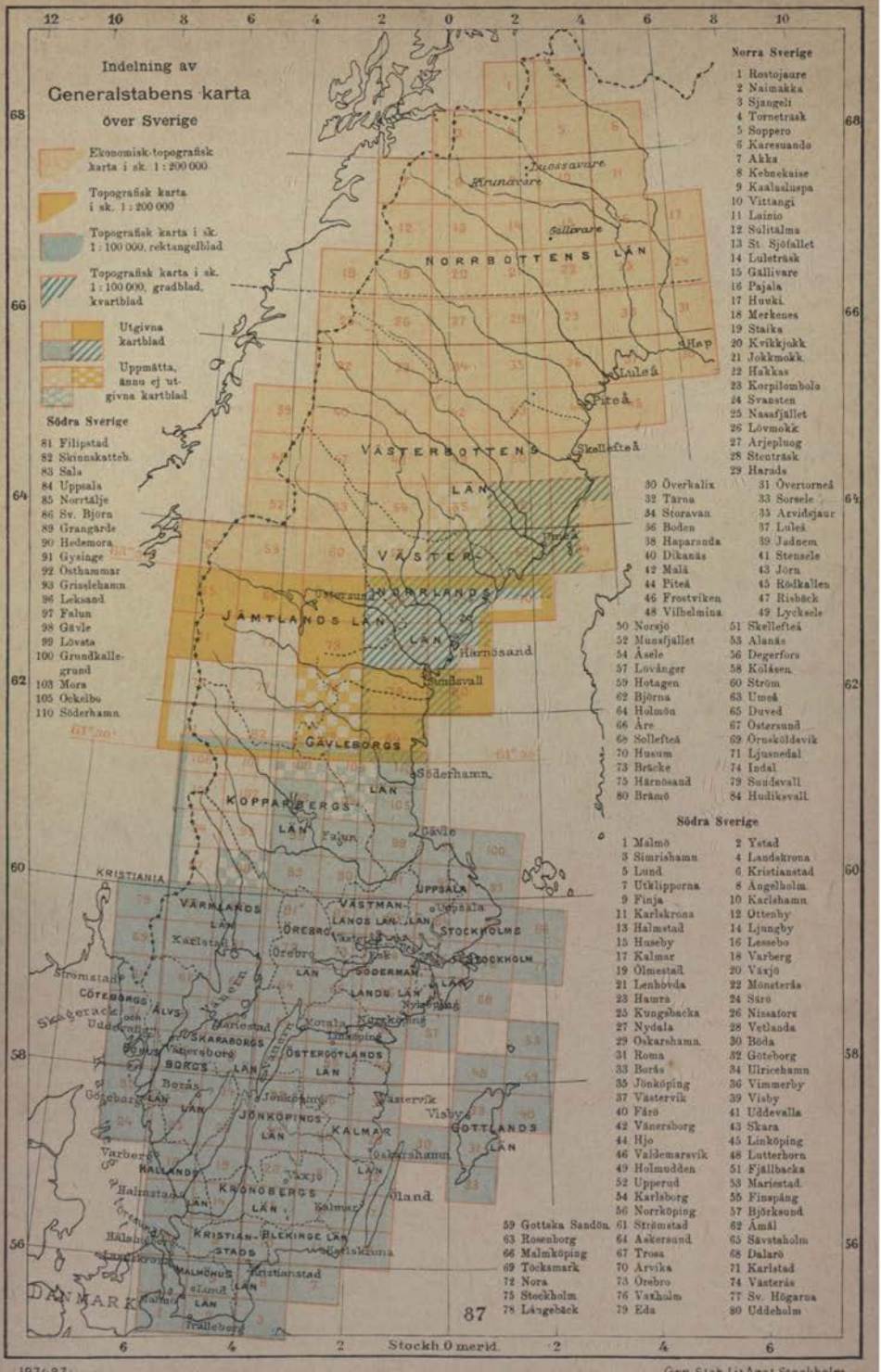
The **Geological Survey of Sweden** is the youngest cartographical institution in the country, having been founded in the year 1858. The function of the Office is to obtain reliable knowledge of the geognostic character of the country, always paying due attention to the requirements of science and with special regard to the economic importance of the different rocks and soils. The results of the institution's work is made accessible to the public partly by means of geological maps with accompanying descriptions, partly by means of treatises and articles dealing with questions of both purely scientific interest and of practical importance, and partly by gathering together in a public museum objects illustrative of the geology of Sweden.

The Office consists of a head, 8 geologists, a secretary, a superintendent of the museum, and a chemist; besides there are, when required, additional geologists and additional ordinary officials.

As the cartographical basis of these geological surveys in the field are used the topographical and economic maps issued by the Ordnance Survey.

The maps which are published by the Bureau, on the basis of field-surveys, are as follows: —

(a) combined quaternary and rock-maps, that is to say, maps which by different colourings represent the different geological formations, namely different sorts of loose soil such as gravel, sand, clay, peat etc. of various kinds, and the portions of the underlying solid rocky foundation that projects through these loose soils, each portion being marked by a colour that indicates the character of the rock. A fundamental principle in the scheme of colour selected is that all colours that refer to the solid rock foundations are dark, while those that refer to the loose layers of soil are light. Combined quaternary and rock-maps have been issued, on a scale of 1 : 50 000 for, roughly speaking, Uppland, Västmanland, Närke, Södermanland, Östergötland, and Skåne, northern Småland, part of Västergötland and Dalsland; on a scale of 1 : 200 000 for Halland, the remainder of Småland,



123483 Gen. Stab. Lit. Anst. Stockholm

Key-plan of the General-Staff's maps of Sweden 1913.

(Regarding changes since 1913, see remark p. 231; *utgivna* = sheets published; *uppmätta* = sheets surveyed.)

and small parts of Västergötland. (b) Rock-maps on a scale of 1 : 200 000 for the greater part of Skåne and south-eastern Småland, southern Öland, and the eastern part of Blekinge. (c) Geological maps of certain läns and parts of läns.

Under the chairmanship of the head of the General Staff, the heads, of the Ordnance Survey, the Nautical Chart Office, the Geological Survey, the Board of Agriculture, the Survey Board, and the Central Bureau of Statistics form the **General Cartographical Commission** *(Kommissionen för de allmänna Kartarbetena)*, whose function is to examine the plans of operation etc., of the three map offices and in general to express their opinion on other cartographical questions.

Side by side with the official cartographical work which has been described above there is a very considerable amount of work done by private enterprise.

* * *

Remark. Changes in the accompanying key-plan since 1913.

Sheets published (1 : 100 000): 104 Bingsjö, 109 Alfta — South Sweden.
79 Sundsvall, 84 Hudiksvall — North Sweden.

Sheets surveyed, but not yet published (1 : 100 000):
87 Fryksände, 94 Dalby, 95 Malung — South Sweden.

State Finances.

The financial administration of Sweden presents the peculiarity of being divided between two mutually independent institutions — viz. the **Public Treasury,** under the management of the Government, with the *Exchequer (Statskontoret)* as its organ, and the **National Debt,** under the control of the Riksdag, with the *National Debt Board (Riksgäldskontoret)* as its organ. The National Debt Board was established in 1789, when the Estates assumed responsibility for the loans which Gustavus III had made on his own account; and it is still under the direction of seven delegates appointed by the Riksdag. Its function of administering the State debt involved two further consequences: on one side, such disbursements as were intended to be covered by borrowed monies were managed by it, and, on the other side, the business undertakings of the State and also those who had borrowed money from the State paid to it certain sums for the interest and amortization of the National Debt; and moreover certain sources of State revenue "proper" (such as the "allmänna bevillningen" down to 1874) were at first paid there. All this in its turn brought it about that a great part of the revenue and of the expenditure of the State was entirely ignored in the State Budget, and appeared only in that of the National Debt; and this rendered a view of the natio-

TABLE 40. *State Budget*

Revenue (in kronor).

A.	*State Revenue Proper:*		
	I. Taxes:		
	1. Poll-tax	850 000	
	2. Taxes on Income, Property etc.	134 225 000	
	3. Customs and Excise	140 100 000	275 175 000
	II. Receipts on State Account (Fees)		6 892 600	282 067 600
B.	*Revenue from the Productive Funds of the State:*		
	I. Business Undertakings		42 183 000	
	II. Shares owned by the State		3 762 500	
	III. Loan-Funds (surplus)		4 248 300	50 193 800
C.	*Share in the Profits of the Bank of Sweden 1913*			8 800 000
D.	*Capital Assets taken into use*			1 226 100
E.	*Loans*			42 538 600
			Total	384 826 100

nal finances as a whole highly difficult. The Budget reform of 1911, however, effected the formal unification of the financial administration by providing that almost every branch of revenue and expenditure was to be included in the national budget. Side by side with its chief function of directing the loan policy of the country, managing the National Debt, and acting as the financial organ of the Riksdag, however, the National Debt Board still sees to the disbursement of borrowed monies and also manages a part of the State's loan-funds.

By the **Budget,** or financial proposals, is meant, as is well known, the suggested revenue and expenditure for a certain year. This is laid before the Riksdag at its opening in January in the form of "The Government's

for the Year 1915.

Expenditure (in kronor).

Expenditure Proper:

		Ordinary Grants	Extra Grants	Total	
I.	First Main Head (Civil List)	1 373 000	—	1 373 000	
II.	Second » » (Justice)	5 291 001	1 127 799	6 418 800	
III.	Third » » (Foreign Office)	1 834 070	754 330	2 588 400	
IV.	Fourth » » (Army)	52 497 793	6 658 607	59 156 400	
V.	Fifth » » (Navy)	22 923 158	8 860 542	31 783 700	
VI.	Sixth » » (Home Office)	13 478 017	14 070 753	27 548 800	
VII.	Seventh » » (Finance)	24 604 903	4 311 997	28 916 900	
VIII.	Eighth » » (Church and Education)	32 953 998	5 685 502	38 639 500	
IX.	Ninth » » (Agriculture)	8 017 504	6 167 196	14 184 700	
X.	Tenth » » (Pensions)	6 694 964	3 555 536	10 250 500	
	Total	169 668 438	51 192 262	220 860 700	
XI.	Expenses of the Riksdag and of Audit etc.			1 518 000	
XII.	Interest on National Debt			28 612 300	
XIII.	Non-recurrent Expenditure on Reorganization of Defence			22 190 630	273 181 630

Expenditure for the Increase of Capital:

		To be covered by		Total	
		Loans	Other Sources of Income		
XIV.	Business Undertakings	32 663 600	7 590 300	40 253 900	
XV.	Loans advanced by State	9 775 000	100 000	9 875 000	
XVI.	Repayment of National Debt	—	5 106 200	5 106 200	
XVII.	State Fund from Intoxicating Liquor Revenue	—	3 200 000	3 200 000	
XVIII.	Fund for Extra-ordinary Defence Tax	—	53 109 370	53 109 370	
XIX.	For Meeting Cost of introducing Tobacco Monopoly	100 000	—	100 000	
	Total	42 538 600	69 105 870	111 644 470	111 644 470
				Total	384 826 100

Proposition no. 1 concerning the state and requirements of the Public Treasury", ordinarily called *the Treasury Proposition (Statsverksproposition-ien):* this relates to the Budget of the *following* calendar year and culminates in the *Final Budget (Riksstat)* as passed by the Riksdag. The work of making out the financial proposals is called *framing the Budget Estimates* for the year *(Statsreglering)*. The arrangement of the Budget has been greatly improved and simplified by the reform of 1911: in respect of both practical perspicuity and scientific consistency it would now seem to be the best that any country can produce. Its present appearance is shown in Table 40.

To look first at State expenditure, a distinction is drawn (as Table 40

TABLE 41. *Development of the Expenditure of the State.*

Expenditure (in kronor)	1882	1890	1900	1913
I. *Expenditure Proper:*				
Constitutional Expenditure (Civil List, Departments of State, Riksdag etc.)	2 657 209	2 866 173	2 819 533	4 049 610
Foreign Office	554 474	511 787	888 703	1 800 887
Defence (Army and Navy)	30 746 025	32 955 556	57 737 106	82 769 453
Law and Justice, Civil Administration, Collection of Taxes etc.	12 622 072	13 371 030	15 254 490	24 209 920
Religion, Education, Science and Art	9 705 127	11 594 674	14 827 622	31 464 888
Public Health, Care of Poor and Sick	1 585 622	2 227 475	3 250 960	12 203 437
Industries and Communications	3 263 676	3 602 579	6 642 501	15 797 833
Civil Pensions and General Civil Expenditure	3 564 014	4 101 529	5 271 803	8 620 272
Interest on the National Debt	8 661 709	9 014 083	6 266 192	23 981 000
Expenditure Proper: Total	**73 359 928**	**80 244 886**	**112 958 910**	**204 897 300**
II. *Other Expenditure:*				
Acquirement of Remunerative Property	4 649 859	5 428 811	25 587 278	51 774 900
Set aside for certain funds	363 700	—	1 500 000	—
Paying off the National Debt	1 274 997	1 363 290	2 203 870	6 355 000
Other Expenditure: Total	**6 288 556**	**6 792 101**	**29 291 148**	**58 129 900**

shows) between *Expenditure "Proper"*, that is, current expenditure which is not intended to create public revenue in the future, and *Expenditure for the Increase of Capital*, which increases the assets of the State — that is to say, is intended to yield returns in the future. The subdivisions of these two main headings are also set forth in the Table.

The development both of the total amount of public expenditure and also of the chief branches of expenditure is set forth in Table 41.[1]

As the Table shows, there has been a marked increase in the "Expenditure Proper" — though the expression is here used in a sense somewhat different from that which it bears in the present Budget — especially since 1900; and the same statement holds good in a yet higher degree as regards the "Other Expenditure"; but in that case it chiefly imports a great increase in the capital funds of the State. The great rise in the expenditure is not peculiar to Sweden; to a certain extent it is only apparent, as it is caused partly by the fall in the value of money during the period (since 1900) and partly by the transition from a natural to a money economy (the abolition of the old military tenure establishment called *indelningsverket*); but it is also to some degree a reality and, as such, an expression of the fact that to a far greater extent than before the State devotes itself or contributes to certain social functions, amongst which there are some that in former times were entirely paid for by the smallest local units of government (*kommunerna*). The most marked (relative) increase is shown, as appears from the Table, by the expenditure on the maintenance of public health, the care of the sick, poor relief, industries, education, etc. The State's contribution to social reform, on the other hand, does not stand out as

[1] As the reform of the Budget did not take effect till 1912, it has not been possible in this place to adopt the new presentment of the Budget. The figures are based on the statistics brought together by the Royal Commission of 1907 on National Defence, with additions for 1913. They deal with the actual expenditure for the earlier years, but for 1913 they are Budget Estimates.

prominently as it ought to do, as expenditure on that object is distributed in the Table under various headings: monies put aside for the Workmen's Insurance Fund, which at the close of 1913 amounted to 35 850 000 kr., are included under "Other Expenditure". In consequence of the National Pension Scheme (old age and invalidity insurance), passed in 1913, the Workmen's Insurance Fund will be taken into more extensive use and the direct expenditure of the State for this social object will greatly increase in the future — according to the scheme, to 27 150 000 kr. per annum. The expenditure for defence, though forming a very large proportion of the total expenditure, has mounted more slowly than the expenditure on the social objects just mentioned, and also somewhat more slowly than the total amount of the "Expenditure Proper". (cf. p. 243).

The **revenue** of the State, like its expenditure, falls, from a financial point of view, into two kinds: A. *State Revenue Proper* and B. *Revenue from the Productive Funds of the State.* As appears from Table 40, the

TABLE 42. *Development of the Income of the State.*

Income (in Kronor)	1882	1890	1900	1913
I. *Taxes and Dues ("State Revenue Proper")*				
1. Land-Taxes and taxes connected with military tenure	11 000 913	8 213 149	2 229 561	19 219
2. Poll-tax	644 757	663 033	749 423	853 809
3. Tax on Income, Property etc.:				
(a) Allmänna bevillningen: (Tax on real property and income)	6 453 117	4 298 099	7 599 186	1 637 414
(b) Graduated Income Tax (Tax on income and property)	—	—	—	39 839 768
(c) Fees for Special Franchises and Privileges	—	512 104	1 112 037	341 512
(d) Stamp-Duties (including Succession Duty)	3 019 161	3 526 387	6 606 207	18 653 021
4. Customs and Excise:				
(a) Customs-duties	31 108 483	42 462 773	57 360 266	69 718 043
(b) Spirit Tax	13 196 750	15 840 573	20 414 226	22 289 457
(c) Sugar Tax	114 945	997 976	9 946 573	20 893 455
(d) Punch Stamp-Duty	—	—	—	1 956 992
(e) Malt Tax	—	—	—	5 236 867
5. Receipts on State Account (Fees)	2 139 635	2 138 048	2 438 292	7 724 367
Total: Taxes and Dues	**67 677 761**	**78 652 142**	**108 455 771**	**189 163 924**
II. *Revenue from the Productive Funds of the State* (all net)				
1. State Railways	8 058 158	6 557 552	10 438 175	21 825 903
2. Post Service	681 343	502 337	686 844	4 230 961
3. Telegraph Service	99 423	5 953	—	6 292 442
4. State Waterfalls	—	—	—	1 531 693
5. Crown Demesnes (land-leases and forests)	3 947 261	4 665 774	8 662 184	10 316 344
6. Share in the Profits of the Bank of Sweden	1 300 000	1 850 000	2 000 000	6 311 000
7. Shares owned by the State (dividends of the Luossavaara-Kiirunavaara Co.)	—	—	—	2 468 291
Total: Revenue from the Productive Funds of the State	**14 086 185**	**13 581 616**	**21 787 203**	**52 976 634**
Grand Total	**81 763 946**	**92 233 758**	**130 242 974**	**242 140 558**

former consists of taxes and fees (which latter figure as Receipts on State Account), the latter consists of the proceeds of the State's business undertakings, shares, and loan-funds. To this group properly belongs the State's share in the profits of the Bank of Sweden (which figures as group C in Table), although this forms a group in itself in the Budget because it is not calculated, as are the other branches of the revenue, for the coming budget-year but is set down at its actual amount for a concluded financial year. The insignificant group D — capital assets employed — consists of the amount to which State assets (as a rule, unused balances of grants or repayments from borrowers of the State) have been used to cover expenditure. Group E, proceeds of Loans, are discussed later.

One of the most important of the alterations carried through in 1911 is that all the different sources of "Revenue from the Productive Funds of the State" have since then been entered at the *net amount*, i. e., the amounts by which the gross receipts exceed the working expenses (but without any deduction for interest on working capital): for these sources of income, therefore, the Budget is what is called a *Net Budget*. The State revenue "Proper", on the other hand, is entered at the *gross* amounts (i. e., without deduction for cost of collection and checking).

From the standpoint of public law a distinction is drawn between *ordinary revenue* and *extra-ordinary revenue* or *"bevillningar"*. The latter, which is determined by the Riksdag alone, and only from riksdag to riksdag, is now by far the most important (comprising, amongst other things, almost all tax-revenue), although, as the name implies, it was regarded at first as an addition to the ordinary revenue.

The development of the different kinds of revenue and their present importance may be studied in Table 42, which carries the figures up to 1913.[1] (Since that year only two important changes have been resolved upon, viz., the Exceptional Defence Tax and the Tobacco Monopoly, which are both noticed below.) A glance at the table shows the great changes that have come over the Public Revenue during the last generation. The development has been similar to that in most countries — the disappearance of the old fixed taxes (see especially the first head in the table), and the recasting of the whole scheme of taxation in the direction of the more extensive direct taxation of income and property, and finally graduated or progressive taxation.[2] In Sweden revenue from the State's business undertakings has simultaneously developed quite as markedly as the public revenue as a whole.

Taking the **Taxes** first, the political question that has proved most difficult of solution has been the writing off of the old *land-taxes* and, in connection therewith, the exemption of the land from the burdens of personal services (taxation in kind) which were an integral part of the military tenure establishment (*indelningsverket*) or the liability of the landowners to raise and, by means of

[1] Actual revenue, not Budget Estimates.

[2] The only capitation tax that still survives in Sweden is the *Poll Tax* (*Mantalspenningarna*) — which, as Table 42 shows, is of very slight financial importance.

assigned farms, maintain the national army. This process was decided upon in 1892 after a struggle of twenty-five years — in connection with a somewhat prolonged period of training for those liable to military service — and was practically completed by 1904. In connection with this step some changes were made in the "allmänna bevillningen".[1] This tax was originally intended to form a kind of supplementary sum in the Budget to fill up any deficit left by the other sources of revenue; but in reality it became very strictly fettered, even in its amount, owing, among other things, to the fact that the whole of the local taxation was built upon it. This led from time to time to a special additional "bevillning"; and when a graduated income tax was decided upon in 1902, that also had to be treated as an addition to the "allmänna bevillningen". Finally in 1910, when the present progressive Income and Property Tax was instituted, this "allmänna bevillning" — now called *bevillning av fast egendom samt av inkomst* — lost all importance as a tax to the State, but nevertheless it could not be abolished because of its connection with local taxation. The tax is now only one-tenth of its original amount; and the entire proceeds are handed over by the Treasury to the county councils and to those towns which are not represented in the county councils.

"Allmänna bevillningen" is in part a tax on *real property* — based on a yield of 6 % or 5 % (the former in the case of agricultural property, the lesser amount in the case of other property) of the rateable value of the property — and in part a *tax on income* of any sort other than from real property. The tax begins at an income of 500 kr. and is so far graduated that 450 kr. are deducted on incomes of 500—1 200 kr. and 300 kr. are deducted on incomes of 1 200—1 800 kr.; according to particular circumstances the deductions may be increased by 200 kr. or even in exceptional cases 400 kr., constituting a total deduction of — at the outside — 650 and 850 kr. respectively on incomes of 500—1 200 kr. and 500 and 700 kr. respectively on incomes of 1 200—1 800 kr. All this still has an important bearing on local taxation.

Within the sphere of State taxation *direct* taxation has obtained greatly increased importance and an entirely modern form through the *Income and Property Tax* passed in 1910. This is a purely graduated tax based on the taxpayer's own declaration (*självdeklaration*). For private persons (Swedish subjects), the tax begins at either an income of 800 kr. or a property of 6 000 kr., and it ascends, for incomes under 6 000 kr., from 0·4 % to 2·2 % of the assessed amount. From 6 000 kr. upwards another scale of graduation is adopted, different layers of the assessed income being taxed at different rates; in this way the tax-percentage rises from 2·25 % to 5 %, which rate it attains at an assessed income of 104 500 kr. As the scale thus proceeds from 0·4 % to 5 %, the largest incomes are taxed 12 1/2 times as heavily as the smallest incomes — always excepting the very smallest ones, which are quite exempt. Moreover, it is to be observed that the recipient of a small income enjoys the advantage of several abatements from the assessed amount — such as 100 kr. for every child, an allowance up to 300 kr. in places where the cost of living is abnormally high, and finally further sums in cases of exceptional distress. Finally we have the Property Tax, or, as it also may be expressed, the "differentiation" of the income Tax, throwing a heavier burden on "unearned" income. This comes into the

[1] This literally means "General Subsidy or Grant"; and shows many points of resemblance to the mediaeval English "subsidy". But the word "*bevillning*" is never applied in Swedish finance, as the corresponding word is often applied in other countries, to *expenditures*, which are in Swedish called *anslag* ("votes" or "grants"). As has been mentioned in the text, in Swedish public law there is a special group of taxes which bear the common name of "bevillningar"; and one of these was called "*allmänna bevillningen*" and is now called "*bevillningen on real property and income*".

system in a manner peculiar to Sweden, inasmuch as one-sixtieth part of the value of the property is added to the income and the amount thus obtained forms the assessed amount. Consequently, as one-sixtieth, or 1 ²/₃ % of the value of the property, is added, the income from the property ("funded") income will be one-third more heavily taxed than other income, if it be assumed that the income forms 5 % (three times 1 ²/₃ %) of the value of the property. The dividends of limited liability companies are taxed at least twice, viz. the company's entire profits and the dividend distributed to each shareholder besides; in the case of a company holding shares in another company the same amount will be taxed thrice. The taxation of the company is graduated from 2 ½ % (up to a profit of 4 %) up to 5·85 % (in the case of profits of more than 100 %).

Of an altogether exceptional character is the enormous *Defence Tax* (*värnskatt*) passed in 1914, to be devoted entirely to the great reorganization of the Army and Navy, and intended to be distributed over the three years 1915—1917 (or, possibly, 1918). Its total amount is 75 mill. kr., assessed upon some 52 000 private tax-payers and 3 200 companies. As it is intended to fall exclusively on the well-to-do, incomes under 5 000 kr. and properties under 30 000, unless combined, are exempt, and the main burden will be carried by the owners of great property or "unearned" income. As in the Income and Property Tax, the assessed amount consists of the income *plus* a fraction of the property value; but this fraction is one-tenth (as against one-sixtieth in the other tax), and, consequently, "unearned" income is taxed as heavily as an "earned" income of thrice the same amount (if a yield of five per cent on the property value is assumed). The progression is very steep, ascending from 1 ½ % to 12 % (in the three years); in the case of pure property income this is equivalent to 4 ½ to 36 % of the income, and even considerably more, if the property yields less than five per cent. Assessed amounts of more than 100 000 kr. are supposed to defray no less than 57 ½ % of the whole tax on private persons. Limited liability companies pay 0·3—15·75 % of their profits (in the three years), the double taxation occurring in the Income and Property Tax reappearing in the new tax. Altogether, this probably is one of the most daring experiments in graduated and differentiated taxation entered upon in modern times, especially when the comparatively limited number of great property owners in Sweden is considered (cf. pp. I, 156 foll.). The character of the tax will stand out clearly from a comparison with the far-famed German *Wehrbeitrag* of 1913. On the principles of the German tax, the Swedish one would have produced less than 44 mill. kr., instead of the 75 millions required from it; and, consequently, the rates of the German scheme had to be increased, on an average, by more than half (54·6 %) upon private taxpayers and had to be considerably more than doubled (increased by 129·3 %) upon companies. It is now, however, confidently expected that the Swedish tax will bring in considerably more than was estimated.

Of the other taxes on income and property mention may be made of the *Succession Duty* (which comes under the head of stamp-duties and is calculated at 6 000 000 kr. for 1915). This is steeply graduated, the scale varying with the size of the various shares inherited and running to as much as 4 % of the value of the property for direct descendants and to 16 % for more distant heirs or persons unrelated to the deceased. The scale is much steeper than in Denmark and Norway and even approximates that which is found in very wealthy countries such as England and France, although direct comparisons are rendered difficult by differences in the form of the tax. Gifts also are covered by this tax.

What are commonly styled *indirect* taxes — but the Budget avoids this highly ambiguous expression — that is to say, taxes on consumption, amount in the State Budget of 1915 to about one half (49·7 %) of the

entire "State Revenue Proper"; but the figures in the 1915 Budget are somewhat misleading, as the Extra-ordinary Defence Tax enters with its complete (three years) amount. If this fact as well as some other ones are taken into account, the percentage of "indirect" taxes rises to 61·1, and this too is below the normal, as even one third of the Defence Tax constitutes an exceptional increase of "direct" taxation. The figure in the Budget of 1914, 63·2 %, may be considered as fairly normal. The result, however, is altogether different, and works out into a marked preponderance of "direct" taxation, if the State and the Local Government are lumped together (see p. 246). What is decidedly the most important of these sources of State revenue, viz. the *Customs* — which by themselves amount (1914) to 36 % of the State Revenue Proper (32·8 % in 1915) — receive special treatment elsewhere (Part II). Other taxes falling under this head are the taxes on manufacture called *Excise:* one of these (the Malt Tax) is based on the raw material; two (the Spirit Tax and the Sugar Tax) on the finished article and one (the Punch Stamp-Duty) on the sale — as is also the case with the spirit license duties, which are included in the State Budget from 1915 onward. From that year, it should be explained, all revenue on intoxicating liquors are to pass into the Treasury; but the amount by which they exceed 41 900 000 kr. is to be formed into a special fund and therefore not to be used for the current expenditure of the State (cf. Temperance Question); hence arises the amount set aside for the Fund from Intoxicating Liquor Revenue in the Budget (see Table 40).

The **Revenue from the Productive Funds of the State** amounts, including the State share in the profits of the Bank of Sweden, to almost exactly 59 mill. kr. according to the Budget for 1915 (see Table 40); but the figure gives an exaggerated idea of the importance of these sources of revenue in the Budget, inasmuch as no interest charges have been deducted. If the actual interest on the State loans be deducted, the revenue from the productive funds of the State (including the State's share in the profits of the Bank of Sweden) for 1915 will be 11·5 % of the total amount of the "State Revenue Proper" and the Revenue from the Productive Funds put together (deduction being made as in the case of "indirect" taxes). Revenue from such productive funds is of far greater importance in the budget of Sweden than in those of France and England, but of considerably less importance than in those of Germany (counting together those of the Empire and its constituent States).

Table 42 shows the different items and their relative importance. The *Railway receipts* in themselves bulk largest; but the yield on the capital invested in the Swedish State Railways is not very high (3·58 % for the good year, 1913) — as, in fact, is the case with the railways, private or public, of most countries, with the exception of the state-owned Prussian railroads. Less imposing in themselves than the Railways, but considerably more profitable, are the *Post* and *Telegraph Services* (yield in 1913, 35·93 % and 7·75 % respectively). The receipts from the *Waterfalls* are not yet large and the yield is low (1·98 %); but only one of the

State's electrical power stations (Trollhättan) has so far been taken into use, and not even this is fully developed. The *Crown demesnes* comprise both forests (under the direct charge of the State) and landed estates (generally leased out): their relative yield is put at 5 %. As pure net profit may be regarded the receipts from the State *shares*, i. e. the dividends in the State-owned preference capital of the Luossavaara-Kiirunavaara Co.: thanks to the new contract between the State and the iron-ore companies — made in 1913 in connection with the increase in the export of iron-ore (see ast "Mining") — this amount already (1915) exceeds three and three quarters of a million kr. and will rise to 10 mill. kr. and will thus become one of the most important sources of revenue in the group. In 1914 the Riksdag passed a law constituting a *State Monopoly on Tobacco*, which is to be leased out to a private company, at least one half of the capital of which will, however, be held by the State. This is expected to bring into the Treasury 6 mill. kr. annually, and an increasing amount by-and-by. On certain *loan-funds* the State has no surplus, but on the contrary deficit, when the interest which the State pays on its capital has been deducted (net yield without deduction of interest 3 % in 1913).

Owing to the fact that the Swedish financial year (which coincides with the calendar year) does not begin until about seven months after the passing of the Budget, it is more difficult in Sweden than in most countries to avoid **a surplus or a deficit** in the public accounts. As a rule, the revenue estimates have so far been kept so low that it has been usual to have a *surplus:* for the years 1882—1913 the total surplus, after deducting deficits, has amounted to no less than nearly 340 millions of kronor. In connection with the Budget Reform steps have been taken to prevent a realized surplus from being treated as revenue available, as has hitherto been the case, for the Budget of the following year. The surplus, therefore, is now carried to a special *Exchequer Cash Reserve (Statsverkets Kassafond)*, which is always to be maintained at a sufficiently high level to cover any deficit that may arise: not until this reserve is sufficiently large shall the surplus be used towards paying off the National Debt, to augment the "Productive Funds of the State" or for other ordinary Budget purposes.

Finally, to pass from the Revenue and the Expenditure of the State to its **Assets and Liabilities**, it must first of all be observed that the *National Debt* of Sweden, despite a very considerable increase during the last decade, is still, in proportion to the population, one of the smallest in Europe.

Funded Debt (in round figures):

	Absolute Amount	Per Head
At the end of 1880	230 356 000 kr.	50·45 kr.
» » » 1890	259 513 000 »	54·23 »
» » » 1900	337 899 000 »	65·78 »
» » » 1910	537 426 000 »	95·90 »
» » » 1913	622 561 000 »	110·41 »

With these figures may be compared the figures relating to the National Debt per inhabitant in a few other countries: Denmark (1914),

127 kr.; Norway (1914), 145 kr.; the Netherlands (1914), 275 kr.; Great Britain and Ireland (1914), 276 kr.; Prussia (1913) — including that part of the debt of the German Empire for which Prussia is liable — 291 kr.; Belgium (1913), 356 kr.; France (1912), 591 kr.

Still more important perhaps is the circumstance that the National Debt of Sweden — still in striking contrast to most other countries — has been entirely incurred for *productive purposes*, chiefly for the construction and equipment of *railways*. The contraction of debt for military purposes — which is a dominant feature in the Budgets of most countries — is conspicuous by its entire absence; and it is worthy of remark thet even the great reconstruction of National Defence agreed upon in 1914 was based altogether on an exceptional tax of 75 mill. kr. and not upon borrowed monies. The State loans taken up during the years 1882—1910 were applied as follows:

For the construction or purchase of railways and steam-ferry	189·5	mill. kr.
» loans to private railways	46·8	» »
» the electric power station at Trollhättan etc.	33·2	» »
» loans to the Telegraph Service	23·8	» »
» the purchase of the Svappavara iron-ore fields	5·0	» »
» loans in aid of agriculture, small holdings (principally agricultural), Norrland land reclaiming, and fisheries	25·7	» »
» other loan funds and loans	20·5	» »
» various cash balances and advances	30·0	» »
Total	374·5	mill. kr.

Over and above these very considerable loan-funds more than 200 mill. kr. of public funds (surplus funds) have also been employed during this period to increase the capital funds of the State in various ways (in addition to what has been applied to the amortization of the Debt): thus Table 40 shows how for 1915 upwards 13 mill. kr. out of the outlay on capital account were to be covered from sources other than loans (not counting the great amounts credited to more or less temporary funds). As a result of this policy the capital invested at the end of 1913 in the business-undertakings of the State (1 019·4 mill. kr.) exceeds by two thirds the t o t a l funded debt of the State (622·6 mill. kr.); and as the capital yields 4·47 % (43·8 mill. kr. on a capital of 980·8 mill. kr.), while the State's funded debt has hitherto borne an interest of about 4 %, we have here the best possible evidence of the financial stability of the Swedish State. Perhaps the exceptionally favourable financial position of Sweden will stand out even more clearly through a comparison of the amount of interest upon State loans with the net yield of State undertakings and property. In 1913 this yield was 57 mill. kr., as against an interest charge of 22·7 mill. kr., leaving a net balance of 34·3 mill. kr. over and above interest on a l l State loans.[1] The **assets** of the State at the end of the same year are set down at upwards 2 milliards (1 927 mill. kr.), or 1 300 mill. kr. more than the entire amount of the liabilities — and this

[1] Actual results, whereas the figure for Interest on National Debt (1913) in Table 41 is a Budget Estimate.

TABLE 43. *Funded Debt of the Swedish State in 1913.*

Loans	Nominal Rate of Interest %	Real Rate of Interest %	Original amount: Foreign Currency	Original amount: Reduced to Swedish Money, kronor	Period of Amortization	Repayment is allowed from the year	Paid during the year: in amortization kr.	Paid during the year: in interest kr.	Unpaid at the close of the year kr.
3⁶/₁₀ % Loan[1]	3⁶/₁₀	3·709	—	96 000 000	—	—	—	3 053 481	84 818 920
Loan of 1880[2]	3½	3·568	£ 6 600 000	119 790 000	1882—1930	1900	2 715 240	2 429 031	68 043 261
» » 1886[3]	3½	3·824	M 81 000 000	72 000 000	1887—1961	1906	453 333	1 967 436	55 985 778
» » 1888[4]	3	3·794	M 30 000 000	26 666 667	—	—	—	725 733	24 191 111
» » 1890	3½	3·638	M 40 000 000	35 555 556	1891—1940	1900	578 667	927 204	26 202 222
» » 1894[5]	3	3·662	Fcs 50 000 000	36 000 000	Within the year 1950	—	—	525 096	17 503 200
» » 1899[5]	3½	3·763	Fcs 100 000 000	72 000 000	1903—1953	1906	371 880	1 151 779	32 536 080
» » 1900[4]	3½	3·821	£ 2 000 000	36 320 000	—	1920	—	1 271 200	36 320 000
» » 1904[4]	3½	3·643	Fcs 50 000 000	36 000 000	—	1916	—	1 260 000	36 000 000
» » 1906[4]	3½	3·643	Fcs 60 000 000	43 200 000	—	1916	—	1 512 000	43 200 000
» » 1907[4 6]	3½ (4)	3·778	Fcs 65 000 000	46 800 000	—	1920	—	1 872 000	46 800 000
» » 1908[4 6]	3½ (4)	3·870	£ 3 000 000	54 480 000	—	1920	—	2 179 200	54 480 000
» » 1911[4 6]	3½ (4)	4·005	Fcs 100 000 000	72 000 000	—	1926	—	2 880 000	72 000 000
» » 1913[4 5]	4½	4.805	Fcs 100 000 000	72 000 000	—	1921	—	—	24 480 000
						Total	**4 119 120**	**21 754 160**	**622 560 572**
					Additional amount paid into the Sinking Fund		2 155 702	—	—

[1] These bonds are not redeemable at the holder's option, but they may be redeemed by the National Debt Board at six months' notice. Out of this loan, the amount of 85 655 360 kr. has been sold 1887—1911. — [2] The original rate of interest was 4 %, which was reduced to 3½ % in 1895, according to endorsement. — [3] 72 614 500 M. issued 1886—1903. — [4] Perpetual annuities; from the date of permissible repayment, bonds may be redeemed after 3 months' notice by the National Debt Board. — [5] Only part of original amount issued, viz., half of amount of 1894 and 1899 loans and (up to the end of 1913) 34 000 000 frcs of 1913 loan. — [6] The bonds are made out at 3½ % interest but bear an endorsement to the effect that the interest is at the rate of 4 % for the loan of 1907 until 1 August 1915, for the loan of 1908 until 20 June 1918, and for the loan of 1911 until 1 September 1926.

despite the fact that non-realizable assets have been included only to a very slight extent and that several for more important income-yeilding assets have been excluded.

The credit of the Swedish State is thus with reason very good, although of course — like that of all other states, great and small — it has felt the effects of the increase in the rate of interest for long loans and especially for State loans, which has been going on during recent years. Table 43 sets forth the nature of the loans which were still unredeemed in 1913. As will appear from this table, only the last loan in the list, that of 1913, shows a serious increase in the rate of interest. Special attention may be directed to the increasing importance of the irredeemable debt, for which no provision for redemption is made in the bond. The amounts set aside for amortization of redeemable bonds, on the other hand, depend on the terms of issue and in 1913 came to 2·2 % of the capital sum. The total yearly amount set aside for paying off the debt is for 1914 put at something over 7 mill. kr., and the lowering of the figure for 1915, to 5·1 mill. kr. (see Table 40), is accounted for by the Great War. As regards the irredeemable debt, this amortization is in part merely a matter of book-keeping, inasmuch as the amounts assigned for the purpose form a special fund (amounting to 15 419 600 kr. at the beginning of 1914), which may be employed as circumstances require, either for paying off old debts or for diminishing the amount of new borrowings.

In addition to the Funded Debt, there is usually a small floating debt in the form of short-term State bonds, called Treasury Bills (20 mill. kr. at the end of 1913).

Combined Economy of the Public Spending Bodies.

In order to obtain a correct idea both of the significance of the various items of expenditure and of the tax-system of the country it is necessary not to consider the State finances entirely apart from those of other public authorities. These different spending bodies will always be found to supplement each other. As regards expenditure, this takes place owing to the fact that the purposes for which expenditure is incurred are to some extent divided among the various authorities, and it is therefore impossible to judge aright, not merely the outlay on the educational system or the means devised for the care of the sick, for example, but even that on the system of national defence, unless we know the total expenditure of all the public spending bodies. Without a comprehensive survey, too, it is equally impossible to discover the relative magnitude of "direct" or "indirect" taxation or the incidence of the burden of taxation among the different classes of income, since the different public spending bodies try to select different objects of taxation; and therefore the investigation of any one such spending body, e. g. the State, always gives a distorted picture of the whole. These facts are

TABLE 44. *Expenditure of the Public Spending Bodies in 1911 or 1908.*[1]

Expenditure	State (1911) kr.	County Councils, Agricultural Societies and Forest Conservation Boards (1908) kr.	Towns not represented in County Councils (1908) kr.	Towns represented in County Councils (1908) kr.	Rural Communes (1908) kr.	Road Service Districts (1908) kr.	All Public Spending Bodies kr.
I. *Expenditure Proper:*							
Constitutional Expenditure (Civil List, Riksdag)	3 148 000	—	—	—	—	—	3 148 000
Foreign Office	1 729 000	—	—	—	—	—	1 729 000
Defence (Army and Navy)	80 689 000	—	—	—	—	—	80 689 000
Law and Justice, Civil Administration: (cf. Group III)	25 761 000	398 000	20 712 000	17 521 000	2 979 000	—	67 371 000
Religion, Education, Science and Art (cf. Group III)	15 824 000	1 004 000	13 325 000	9 873 000	33 028 000	—	73 054 000
Public Health, Care of Poor and Sick, Social Policy (cf. Group III)	8 048 000	7 294 000	14 593 000	5 913 000	14 533 000	—	50 381 000
Industries and Communications (cf. Group III):	10 311 000	3 674 000	11 966 000	7 839 000	1 498 000	12 368 000	47 656 000
Interest on Debt	21 884 000	643 000	11 723 000	6 474 000	2 472 000	—	43 196 000
Expenditure Proper: Total (cf. Group III)	**167 394 000**	**13 013 000**	**72 319 000**	**47 620 000**	**54 510 000**	**12 368 000**	**367 224 000**
II. *Other Expenditure:*							
Acquirement of Remunerative Property	18 019 000	—	26 493 000	9 768 000	1 000 000	—	55 280 000
Loans Advanced	8 920 000	—	—	—	—	—	8 920 000
Set aside for certain funds	2 450 000	—	—	—	—	—	2 450 000
Paying off Debt	23 796 000	6 631 000	34 755 000	21 986 000	7 047 000	—	94 215 000
Other Expenditure: Total	**53 185 000**	**6 631 000**	**61 248 000**	**31 754 000**	**8 047 000**	—	**160 865 000**
III. *Contributions to other Public Administrative Bodies*[2]	**16 600 000**	—	—	—	—	—	**16 600 000**
Grand Total	**237 179 000**	**19 644 000**	**133 567 000**	**79 374 000**	**62 557 000**	**12 368 000**	**544 689 000**

[1] The figures are not to be compared in detail with those given in Table 41, but they are nevertheless similar to them on the whole. — [2] This figure includes 3 641 000 kr. for civil administration, 386 000 kr. for poor relief, 10 138 000 kr. for education, and 2 435 000 for means of communication.

of special importance in international comparisons; and an attempt will therefore be made in this place to take a single comprehensive view of the economy of all the public authorities combined, although the figures given can only be approximate. The public administrative bodies are, in the main, following: the *State, the County Councils* (or *landsting*) — therein including the local official *Agricultural Societies (hushållningssällskap)* and *Forest Conservation Boards (skogsvårdsstyrelser)* — the *Larger Towns* (i. e., those which are not under the County Councils), the remaining or *Smaller Towns,* the *Rural Communes,* and the *Road-Service Districts.*

As regards the **expenditure** of the public spending bodies, we may first show the division of expenditure (based on a collation of data printed in the *Ekonomisk Tidskrift* for 1911) among the different authorities:

Administrative Authorities.[1]

	Mill. kr.	Percentage
The State	237·2	43·5
County Councils (including Agricultural Societies and Forest Conservation Boards)	19·6	3·6
Larger Towns (not under the County Councils)	133·6	24·5
Smaller Towns (represented in the County Councils)	79·4	14·6
Rural Communes	62·5	11·5
Road-Service Districts	12·4	2·3
Total	544·7	100·0

[1] The figures for the State are based on the Budget for 1911, but those for the other authorities on the accounts of 1908. There are other unavoidable inconsistencies.

The above list shows that less than half the total expenditure falls on the State, and that the figure for all the towns, large and small, together is not much less than that for the State.

The distribution of the different purposes on which public money has been spent among the different authorities is set forth in Table 44. A glance at this table shows that in all cases, with the sole exception of defence, all the great items of public expenditure are defrayed partly by the State and partly by the Local Government bodies. The State Budget, therefore, gives far too low an idea of the total expenditure for most public purposes, but on the other hand gives far too high a representation of the costs of defence in comparison with other expenses.

Passing next to the **revenue** of the public spending bodies, we notice that, in the make-up of the total receipts, taxes pay a far smaller part in the Local Government budget — especially those of the towns — than in that of the State. The remainder of the income required is supplied partly by income-yielding property and undertakings of various kinds — specially in the towns — and partly, as appears from Table 44, by grants in aid from the State — this is specially the case with the rural communes — and finally by means of various dues. The amount of debt contracted by the local administrative bodies is also great, as appears from the detailed statement in Table 57. The manner in which

TABLE 45. *Tax Revenue of Public Spending Bodies 1912.*

Taxes and Rates	To the State kr.	To Other Administrative Bodies kr.	To All Administrative Bodies kr.
Taxes on Consumption	132 009 437	—	**132 009 437**
Other Taxes ("Direct" Taxes, Succession Duty, and other stamp-duties)	57 201 480	118 389 111	**175 590 591**
All Taxes	**189 210 917**	**118 389 111**	**307 600 028**

the local administrative bodies estimate their receipts from productive funds, however, makes it impossible to compare the figures in the income side.

The *tax-revenue,* on the contrary, can be extracted from the accounts and their total amount and nature can be investigated, whereby we also get a notion of the *total burden of taxation per head of the population.* The apportionment of the actual (not the estimated) tax-revenue enjoyed by all the public spending bodies for the year 1912 is set forth in Table 45. This Table shows with great clearness how "direct" taxation practically has the field to itself in the realm of local government, and that the great preponderance of taxes on consumption in the State Finances is, to a great extent, conditioned by the contrary state of things in the case of the other spending bodies. Thus "direct" taxation shows a marked preponderance when all public bodies are taken together.

From the standpoint of pressure of taxation, however, we have also to take into account the protective customs-dues, which, as is well known, make goods dearer not merely by the amount which flows into the coffers of the State but also by sending up the price of the goods produced within the country. It must further be emphasized that the figures just given reveal nothing concerning the effects of the graduation

TABLE 46. *Incidence of Taxation on Different Classes of Income.*

Taxes and Rates	Group 1: 1 200— 1 500 kr. Income	Group 2: 1 500— 1 750 kr. Income	Group 3: 1 750— 2 000 kr. Income	Group 4: 2 000— 2 500 kr. Income	Group 5: 2 500— 3 000 kr. Income	Group 6: 3 000— 4 000 kr. Income	Group 7: 4 000— 5 000 kr. Income
	Tax-Percentage						
Taxes on Consumption[1]	5·34	4·42	4·64	4·72	5·23	4·63	4·12
Income Tax	0·47	0·84	0·79	0·95	1·12	1·26	1·75
Total Taxes (State)	5·81	5·26	5·43	5·67	6·35	5·89	5·87
Total Rates (Local)	4·00	4·25	6·10	6·10	6·10	6·10	6·10
Total: Taxes and Rates	**9·81**	**9·51**	**11·53**	**11·77**	**12·45**	**11·99**	**11·97**

[1] In this is included the *whole* of the increased price caused by the customs-duty, and not only what comes into the coffers of the State.

of taxation. In order to throw some light on this matter, there has been instituted an investigation of the distribution of the burden of taxation among different classes of income. This investigation is based on the returns as to the cost of living in Stockholm in 1908—09, published by the Municipal Bureau of Statistics of Stockholm, and assumes that the new tax regulations made in 1910 have come into force. The result, which can only lay claim to approximate correctness, is shown in Table 46.[1]

Table 46 shows that the two lowest of the income groups included have a substantially lesser relative burden of taxation than the next two groups, while the remaining five groups have, to all intents and purposes, the same percentage of taxation. On the whole, therefore, it would seem as if the progressive taxation of income pretty well made up for the regressive indirect taxation, and that Swedish taxation as a whole were not far from *proportional* in relation to income. From this, however, there are two exceptions: (a) the really *small* incomes, whose burden of taxation is distinctly lower — still more so than appears from the Table is this the case with incomes under 1 200 kr.; and, still more, (b) the really *large* incomes, where the progressiveness of the Income Tax, the Tax on Property, and the double taxation of companies' dividends may bring up the rate of taxation to as much as 15—19 %. All these figures are given irrespective of the exceptional taxation of the great incomes through the Defence Tax during the years 1915—17. If that is taken into account, as affecting both private income and companies' profits, the total annual taxation of owners of great "unearned" income ascends to something like 35 % of the annual income in normal cases and perhaps to 40 % in exceptional cases.

The burden of taxation per head of population (taken in the same sense as in Table 45, not as in Table 46) was in 1912 as under:

Taxes on Consumption	23·65 kr.
Other Taxes ("Direct" Taxes, Succession Duty etc.)	31·45 »
Total Burden of Taxation	55·10 kr.

Army.

The Swedish army, small in comparison with the huge armies of the Continent, has had a more glorious history than those of most countries. There was a time when that army not only ranked highest in the military art of its age, but was a model for other armies in all branches of the science of war, in organization, in equipment, in discipline, in military efficiency in general, in strategy, and in methods of warfare: in fact, it inaugurated a new era in all branches of military science.

[1] "A Guide to the Defence Question", published by the editors of *Svensk Tidskrift* (Stockholm, 1913), p. 299. The investigation was carried out by Mr Vilhelm Nordström, civil engineer.

Photo. W. LAMM, Stockholm.

Barracks of the Mounted Life Guards.

It was the time when *Gustavus Adolphus* — not merely the greatest military genius of Sweden, but one of the very ablest generals that have ever existed — was making his victorious progress through Europe. Undisciplined bands of mercenaries, at the call of the highest bidder, were the means of defence on which most states at that time had to depend. In Sweden, on the other hand, more than half a century earlier than in any other country, the foundations had already been laid for a truly national, standing army. Discipline in that army was not a matter which depended on proper pay; it was based on a true spirit of obedience, the fear of God, and humanity. The far-sighted Gustavus Adolphus realized the importance of firearms; he not merely availed himself of technical improvements, but, above all, thoroughly understood the *use* of the new weapons. Entirely discarding the heavy column-formation traditional from the Middle Ages, he arranged his troops in light, mobile bodies, and brought the different branches of arms into co-ordination with one another. In short, the first decisive steps were taken in the direction along which the art of war has since developed. In the art of generalship the traces of Gustavus Adolphus' creative mind are perhaps more distinct and more deeply set than in any other sphere. Instead of the aimless plundering expeditions and the desultory guerilla fighting which had been the mode of warfare for more than a thousand years, he introduced system into the science of war, and thus marked out the lines which that science was to follow for generations to come.

A new era set in with "the three great Charleses" (Charles X, Charles XI, and Charles XII). The Swedish army was still in the forefront in military science; one stone after the other was added to its structure; victory followed upon victory. However, Sweden had been compelled to resign her leading military position in Europe to others. Sweden's wars, carried on mainly with her neighbours in the North of Europe, no longer so closely affected the interests of Central Europe, and thus Swedish military science did not attract

so much attention as before. The fame of *Charles XII's* brilliant achievements spread all over Europe; but his contemporaries, accustomed to rule-of-thumb methods of warfare, to dependence on baggage-trains and the cover of fortresses, were unable to comprehend the greatness of his rapid and decisive operations, just as the slow cavalry of that epoch failed to grasp the importance of the bold and dashing charges of the Swedish horsemen. Years were to elapse before the Swedish cavalry's dashing method of warfare met with general recognition in Europe, and the storms of the French Revolution were to sweep over that continent before the real significance of Charles XII's methods was thoroughly realized.

Two centuries have passed away since then. The changed political conditions into which Sweden has entered during that time have naturally impressed their stamp also upon the Swedish army. The Swedish military establishment is now directed to one sole object: *the maintenance of neutrality and the successful defence of the liberty and independence of Sweden.*

To this end strenuous, methodical, and practical work is being accomplished with the Swedish army to-day. This work has been extremely successful, considering the short training of the conscripts. At the Olympic Games at Stockholm, in 1912, Swedish army officers distinguished themselves brilliantly in shooting and riding, which is a striking proof of the good methods of training employed in the Swedish army.

The present organization of the Swedish army is based on universal conscription. There is, however, in addition, a pretty large body of professional soldiers, which is intended to give stability to the general army fabric.

Conscripts. Every Swedish man is liable to military service. The right to buy oneself off, or to pay for a substitute does not exist in

Photo. W. Lamm, Stockholm.

Infantry.
H. R. H. The Crown Prince in Front.

Sweden. Liability to military service begins with the calendar year during which the age of 20 is attained and ends with that in which the age of 42 is reached. The *period of service* is thus 23 years as a rule, distributed as follows: 11 years in the first *uppbåd*, or levy, of the *bevä-ring* or active army, 4 years in the second *uppbåd*, and 8 years in the *land-storm* or second line.

Photo. MALMSTRÖM, Stockholm.

Infantry in Field Fortifications.

Only those whose natural infirmities unfit them for active service are exempt.

From military service in time of peace are exempt: the nomad Lapp population, foreigners who have become naturalized Swedes at the age of 26, or later, or who can prove that they have performed their military service abroad for a longer period of time than is prescribed for Swedes, and, in exceptional cases, certain other classes.

Exemption from military service in time of peace is also enjoyed by such as have emigrated from Sweden and since returned, but under the following conditions: That they did not emigrate contrary to the regulations in force concerning emigration; that during the year in which they return they attain an age of at least twenty-eight, and that at least nine years have elapsed between emigration and return, the time being thus excluded during which they must remain in the country to recover their forfeited rights of citizenship.

A foreigner who has become a naturalized Swede at the age of 20,

or later, is liable to military service from the year following that in which he has been naturalized.

Anyone who has had permanent employment in the military establishment for at least 2 years, or in the army for a shorter period than 2 years, but who during that period has undergone training as a recruit and taken part in at least two *repetitionsövningar*,[1] i. e. repetition periods (of service), shall, after having left the said employment, belong to the first *uppbåd*, or levy, of the *beväring* or active army, as long as he remains in the *beväring*. This is also the case with anyone who has passed the matriculation examination or similar test, or who has passed certain examinations at a navigation school or has undergone training to fit him for certain positions within the command.

Photo. W. Lamm, Stockholm.

Cavalry.

Sweden is divided into 26 *inskrivningsområden* or enrolment districts and 78 *rullföringsområden* or sub-districts. The chief of the infantry regiment drawing its men from the district is, as a rule, in charge of the enrolment district. The commander of a sub-district must be an officer in the reserve. — There are also naval enrolment districts.

To each sub-district there is an enrolment board, and to each enrolment district a (superior) revising board. These boards are composed of both military and civilian members, and are assisted by medical officers.

Enrolment takes place annually; in certain cases permission may be granted for enrolment before the due time.

In 1912, out of 72 758 men liable for enrolment, 8 589 were struck off, 20 243 were absent, 7 043 were exempted, 1 869 were granted respite, and 35 014 were enrolled for military service.

[1] Literally: rehearsal exercises. In the *repetitionsövningar* the conscripts are trained in larger units than in the *rekrytskola*, their first training period.

Those struck off the muster consisted of 2 759 already permanently employed in the military establishment, 1 932 enrolled in the register of seamen, 231 who had left the country, and 3 667 who had been wrongly entered. Out of those absent, 375 had lawful excuses for non-appearance, and 141 had left the country; the remaining 19 727 were absent without lawful excuse, among them 6 023 of the age of 21, and 13 704 above that age. Respite was granted in 1 046 cases for reasons of health, and in 823 cases for domestic reasons.

Out of the 35 014 enrolled, 28 641 were 21 years of age, 2 295 were older and 4 078 younger. 30 226 were capable of bearing arms (military fit), and 4 788 unfit. Out of the total number, 22 947 were assigned to the infantry, 1 847 to the cavalry, 3 712 to the artillery, 1 096 to the engineers, 2 151 to the army service corps, 303 to the landstorm (reserves), and 2 946 to the navy, while 12 were not assigned to any special service. Moreover, in the naval enrolment districts 142 were assigned to the army and 1 605 to the navy.

The training of the conscripts. Conscripts are, after enrolment, obliged to serve in time of peace for the following number of days (see Table 47):

TABLE 47. *The Service of Conscripts.*

	First service (recruit training)	Repetition Service			Total
		2nd year	3rd year	4th year	
Infantry	250	30	30	30	340
Cavalry, field artillery, position artillery	281	42	42	—	365
Fortress artillery, fortification engineers	295	—	35	35	365
Field engineers, field telegraph corps	295	35	35	—	365

For the rest, the total period of training is:

Army service corps, commissariat, and the majority of those incapable of bearing arms	240
Non-commissioned officers etc. of army service corps, commissariat	365
Non-commissioned officers etc. of infantry	400
Conscripts capable of bearing arms, who have passed a matriculation examination or other similar test	485

To this must be added:

Service for reserve troops	15—25 days
Service for the landstorm	5 days

A *muster* shall be held every year of conscripts (beväring) who have not been in active service in the course of the year. For the purpose of this muster, conscripts are under obligation to lodge with the authorities a written statement of address and occupation; or else to attend the muster in person and make the said statement orally.

A body of permanent or **professional soldiers** is incorporated in the army, partly in order to recruit the ranks of non-commissioned officers, partly to maintain the garrison service, partly to supply trained remount riders, and so forth. These professional soldiers are called *volontärer*, or "volunteers". The limits of age for enlistment are 18 to 23. The term of service is for 2 to 4 years, and re-enlistment is granted for 1 or 2 years

at a time. During their term of service the majority of "volunteers" pass through military schools for corporals or non-commissioned officers, or are trained as ambulance workers, armourers, farriers, or other craftsmen. The greater number of permanent soldiers are promoted to the different ranks of corporal[1].

Non-commissioned officers *(underofficer)* are recruited out of the permanent body of soldiers. To be eligible as a non-commissioned officer, one must have passed through a school for non-commissioned officers with credit, and to have served several years as quartermaster-sergeant with distinction.

Photo. W. LAMM, Stockholm.

Cavalry Charge over a Frozen Lake.

Officers. To be eligible as an *officersvolontär*, or cadet, one must have passed the *studentexamen*, or University Matriculation Examination (generally passed while still at school: rather severe). Having undergone training as recruits, cadets are trained at a school for non-commissioned officers, and enter for their second year of training at the Military School, where they stay about 14 months. The training of an officer takes about $2^1/_2$ years after passing the *studentexamen*. The average age at which the rank of officer is attained is from 21 to 22. About 100 officers are gazetted annually. Promotion up to the rank of captain is, as a rule, by length of service in the regiment, promotion to that of major or higher ranks by selection from within the particular arm of service or the General Staff.

To be eligible for promotion to the rank of lieutenant in the cavalry in time of peace, it is necessary to have served for two years and to have gone through a one

[1] A corporal in Sweden does not rank as an *underofficer*, or non-commissioned officer.

year's course at the riding school; in the case of the artillery and fortifications service, it is also necessary to have gone through the general one year's courses at the Artillery and Engineers High School. To be eligible for promotion to the rank of captain in time of peace, it is necessary to have served for nine years as an officer: in the case of the fortifications service, it is also necessary to have gone through the two year's higher fortification course at the Artillery and Engineers High School. — For the training of the General Staff, and for the higher instruction of officers in military science, there is a Military High School (*Krigshögskola*) with a two years' course. — Other establishments for the further training of officers are the Gunnery Schools for the Infantry and Artillery, and the Central Gymnastic Institute. There are also courses in gymnastics for subaltern officers; riding courses for infantry officers; courses for the training of arms officers, and arms inspection officers; detachments for training in railway service and in map-making; a training course in tactics for captains, and so forth.

Officers are eligible for pensions after 30 years of service and according to age: a general at 65; a colonel at 60; a lieutenant-colonel or major at 55; a captain at 50.

Reserve officers. In order to be eligible as a *reservofficersvolontär*, one must have passed the *studentexamen*, or equivalent examination. The training of reserve officers is substantially on the same basis as that of an active officer; a reserve officer, however, is enabled to devote more or less of his winters (according to the branch of service) to the exercise of some other profession. A reserve officer has thus the option of concentrating his training in a short but continuous period, or of distributing it over a longer stretch of time, with intervals for other studies. The appointment as reserve officer may be attained in from $2^1/_2$ to 3 years after the passing of the *studentexamen* or equivalent examination. About 100 reserve officers are appointed annually.

Organization of the army in time of peace. Sweden is divided into 6 *arméfördelningsområden* or territorial divisions, besides the troops in Boden (the garrison in the far north) and in the island of Gottland. The distribution of the army on a peace footing, according to the Army Organization of 1914, is shown by Table 48.

The *strength* of the Swedish army on a *peace footing* is shown by Table 49.

TABLE 48. *The Distribution of the Army in Time of Peace.*

Army division	Headquarters	Infantry regiments	Squadrons	Field cannon batteries of 4 guns	Field howitzer batteries of 4 guns	Position batteries of 4 guns	Fort-artillery companies	Engineers companies	Army service corps companies
I.	Hälsingborg	5	21	11	2	—	—	1	3
II.	Linköping	4	5	9	2	—	—	—	3
III.	Skövde	4	5	9	2	—	4	6	4
IV.	Stockholm	5	5	9	2	6	—	14	4
V.	Stockholm	4	5	9	2	—	—	—	3
VI.	Östersund	4	5	9	—	—	—	6	4
Boden	Boden	1	2	1	2	—	8	5	1
Gottland . . .	Visby	1	—	2	—	2	—	—	—
	Total	28	48	59	12	8	12	32	22

TABLE 49. *Strength of the Army on a Peace Footing.*[2]

Troops	In the Standing Army							Conscripts of the year, capable and incapable of bearing arms[1]	Horses	
	Officers	Non-commissioned officers	Military bands	Corporals	Rank and file	Civil-military and civilian officials	Total in the standing army		Officers' own	Regimental
General officers, General Staff, etc.	78	2	—	—	—	20	**100**	—	178	—
Infantry.										
1 regiment of guards	53	38	36	153	363	5	**648**	725	2	27
1 do.	53	38	36	153	363	5	**648**	725	2	27
1 infantry regiment	53	38	33	141	63	5	**333**	725	2	27
23 do.	1 219	874	759	3 243	1 449	115	**7 659**	16 675	46	621
1 do.	58	41	26	141	63	2	**331**	725	2	27
1 regiment in Gottland	52	38	33	141	173	2	**439**	700	—	27
Cavalry.										
1 regiment of guards	27	16	12	65	235	5	**360**	200	54	620
5 regiments	135	80	60	325	1 175	25	**1 800**	1 000	270	3 100
1 regiment	45	25	25	103	424	8	**630**	300	90	1 100
1 do.	45	25	25	103	424	8	**630**	300	90	1 100
1 corps	12	7	—	28	95	—	**142**	80	24	240
Artillery.										
1 field artillery regiment	54	45	18	113	187	5	**422**	435	2	450
3 do.	162	135	54	339	561	15	**1 266**	1 305	6	1 350
1 do.	61	53	21	132	222	5	**494**	500	2	548
1 do.	58	48	18	122	206	5	**457**	450	2	490
1 artillery corps	21	13	6	51	93	—	**184**	50	2	85
1 fortress artillery regiment	46	48	10	80	143	—	**327**	360	2	70
1 fortress artillery corps	20	21	6	41	71	—	**159**	180	2	61
1 position artillery regiment	32	36	11	62	103	2	**246**	300	2	183
Ordnance-store establishment	7	—	—	—	—	115	**122**	—	—	—
Engineers.										
Fortification staff	173	140	41	378	458	80	**1 270**	1 200	10	226
5 engineers corps										
Army Service Corps	195	177	48	276	126	45	**867**	2 400	6	324
Commissariat Corps										
Others	—	—	—	—	—	130	**130**	—	—	—
Total	**2 659**	**1 938**	**1 278**	**6 190**	**6 997**	**602**	**19 664**	**29 335**	**796**	**10 703**

To this are to be added 1—2 classes (years) of conscripts taking part in their *repetitionsövningar.*

[1] Approximate average figures. — [2] According to Army Organization of 1914.

The Landstorm. Sweden is divided into a number of landstorm districts, as a rule two, in exceptional cases one, three, or more, to each enrolment sub-district. The landstorm troops of each district are distributed, according to their numbers, into infantry battalions and infantry companies. Landstorm divisions are also made up of the other branches of the service, units for coast defence, army works corps, and so forth.

The army on a war footing. The organizing of the army in the field comprises the appointment of the higher staffs, the bringing up of the troops to war strength and their equipment with necessaries, as well as the assembling of the mobilised battalions. It also includes the organization of landstorm divisions, étape system, garrisons of fortresses, and depôt troops.

At present the number of trained men in the Swedish army, liable to serve in time of war, may be estimated at about 600 000.

The **arms** of the infantry are repeating rifles on the Mauser system,

Photo. W. Lamm, Stockholm.

Volunteer Shots on Ski.

Photo. W. LAMM, Stockholm.

Volunteer Shots at Practice in Snow.

6·5 calibre. The cavalry has swords as well as carbines on the said system; the field artillery 7·5 cm. cannons, and 10·5 cm. howitzers; the position artillery 11·7 cannons and 14·91 cm. howitzers. The machine guns are on the Schwarzlose system, 6·5 mm. calibre.

Fortresses and Positions: Stockholm (Vaxholm-Oscar Fredriksborg) Karlskrona, Gothenburg (Älvsborg), Boden, and Karlsborg, and, on the Island of Gottland, Fårösund and Tingstäde.

The Volunteer rifle corps date their origin from the sharpshooter movement of the sixties, which, after varying fortunes, developed in the nineties into the present organization. The mission of the volunteer rifle corps is to promote skill in shooting, to foster patriotism, and to encourage and sustain a living interest in the defence of the country. The volunteer riflemen are formed into rifle clubs, and the rifle clubs in turn are amalgamated into rifle unions. The rifle unions are under the direction of a supervisory board in Stockholm. At present there are about 2 300 rifle clubs, amalgamated by läns into 26 rifle unions. Both on the supervisory board and on the several boards of the unions there are members appointed by Government; otherwise the volunteer riflemen are under the control of persons elected by themselves.

The contribution made by the State to the volunteer rifle corps amounts at present to about 975 000 kronor per year. This sum is employed in administration expenses, badges and prizes, shooting matches and field days, shooting

ranges; annual subsidy to the rifle clubs of 2 kronor for every rifleman, below or of military age, who in the preceding year has shot at least 50 ball cartridges.

The Government draws up an annual shooting programme. The riflemen are divided into 4 classes according to their skill in shooting. The exercises comprise preparatory exercises, school shooting, judging of distance, and field shooting. The State lends rifles to the clubs, or supplies rifles and ammunition at cheap rates.

In 1913 the volunteer rifle corps numbered about 175 000 active members, out of which 160 000 took part in the exercises. During that year about 16 000 000 ball cartidges and about 400 000 blank cartridges were fired. By way of prizes were distributed about 100 State medals, 2 600 date badges, and 1 000 shooting badges of gold, 3 000 of silver, and 5 000 of bronze.

Navy.

The Swedes have from time immemorial been a seafaring nation. In the Viking period the Scandinavian peoples were the greatest sea power in the world. But this terrible power was soon shattered, and, as far as Sweden was concerned, she possessed at the end of the Middle Ages no navy whatever. In more modern times the fortunes of the Swedish navy have undergone many vicissitudes. In our days a keen interest has been awakened in the strengthening of the naval defences, an interest which at the close of the nineteenth century and the beginning of the twentieth was productive of fair results.

Gustavus Vasa is rightly called *the founder of the modern Swedish navy.* He presided over the development of the navy personally, and with a powerful hand. Under Eric XIV who continued his work, the Swedish navy was the leading navy in the whole of Northern Europe. After his time, however, it fell into considerable neglect.

The inadequate strength of the navy, and the geographical disadvantage of its being stationed at Stockholm, proved disastrous to Sweden during the war with Denmark from 1675 to 1679. The establishment of Karlskrona as a naval arsenal in 1680, and the rapid development of the navy in the latter years of the reign of Charles XI were the immediate consequences. At the ingress of the 18th century Sweden, accordingly, possessed a fleet of not less than 45 ships of the line, besides smaller vessels. However, the continually increasing dearth of money during the latter part of the reign of Charles XII rendered it impossible to maintain so great a force.

When peace had been reestablished after the death of Charles XII, Government and Riksdag devoted themselves ardently to the naval defences. Gradually there arose alongside of the regular warships an enormous fleet of rowing boats, comprising certain types of vessels peculiar to Sweden (the "Skärgård frigates"); their chief station and base of operations was Sveaborg. During the reign of Gustavus III, in particular, both fleets were developed to such an extent that in the war with Russia in 1788 to 1790 Sweden was able to bring up against the enemy 26 ships of the line, 12 large frigates, and over 350 smaller vessels, manned with about 44 000 men, and mounted with over 5 000 cannons. However, the losses during the war were very serious, and since that time the Swedish navy has never attained the same strength.

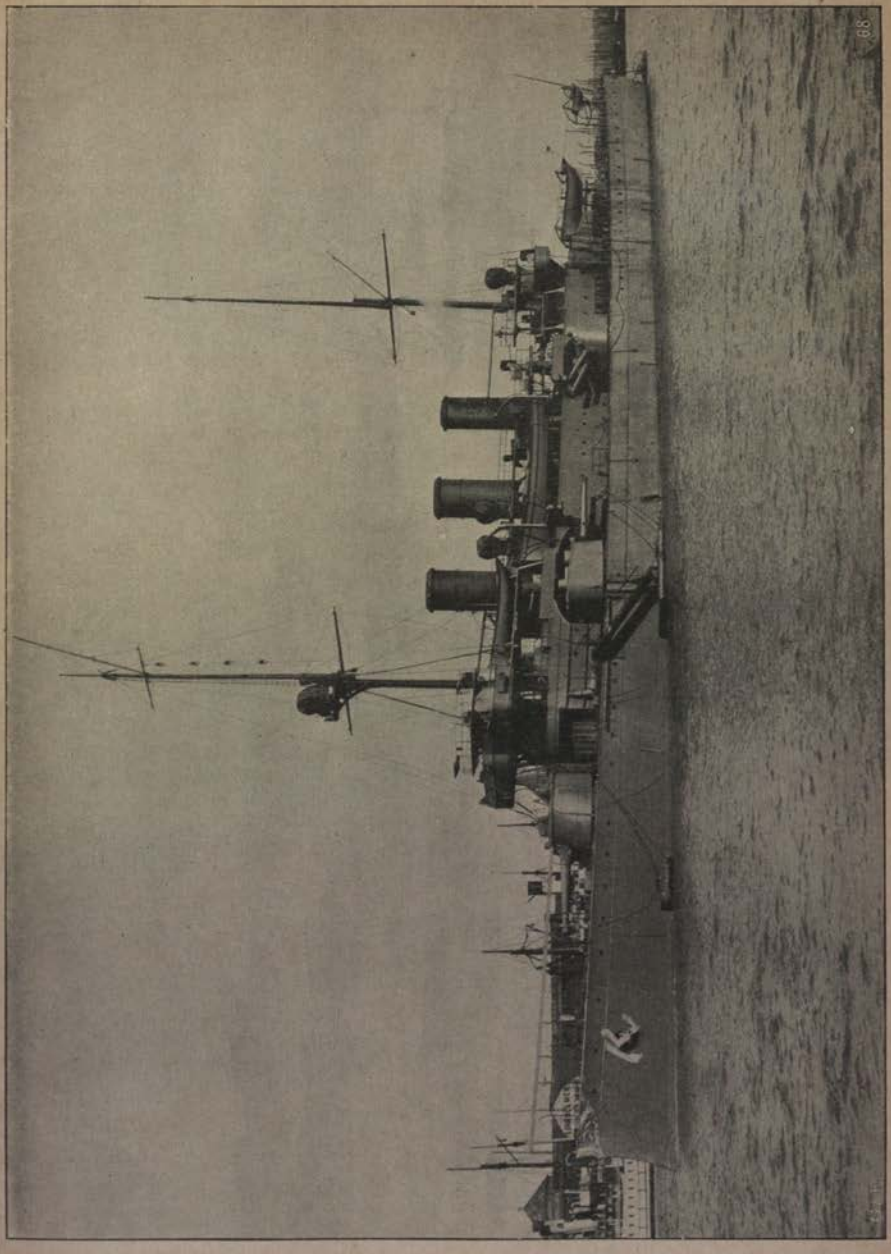
Nevertheless, right down to the middle of the 19th century, Sweden maintained two fleets of pretty respectable size and quality. Then came the great

and sudden revolutions in naval materiel which threw so many small countries out of gear. In the sixties and seventies a few small ironclads and a number of gunboats were procured by Sweden; but this was but a sorry compensation for the good old fleets of former times, especially as the personnel had repeatedly been cut down.

It was not till the Parliamentary Commission of 1882 that the Swedish navy again began to lift up its head. They decided on a new type of ironclad of greater displacement and seaworthiness, higher speed, and more powerful guns. The progress was, indeed, slow until 1895, but since then more and more rapid; in 1899 the Riksdag voted a grant for the building of 3 new ironclads; in 1900 to 1903 it was decided to build 2 more ironclads and 1 armoured cruiser. Since then, however, only minor unarmoured vessels (torpedo boats and mining vessels) have been added to the navy. As the development of other navies during this period has been more vigorous than ever before, the Swedish navy has dropped behind. However, by private munificence large funds have been collected for the building of a new ironclad of a far more powerful type than before. The building of this vessel, the *Sverige*, of the "F" class, began at the close of 1912. And the Riksdag in 1914 has voted means for 2 similar ships besides 4 destroyers and a number of submarines.

Since 1902 *Marinen*, or the Navy in its widest sense, comprises the *Fleet* and the *Coast Artillery* under a joint *Supervisory Board (överstyrelse)*. The latter consists, next to the King, of the Navy Minister, the Navy Board (Marinförvaltningen), the Chief of the Navy Staff (Marinstaben), the Inspector of the Navy Manœuvres, the Navy Engineer-in-Chief (Marinöverdirektören), the Navy Intendant-in-Chief (Marinöverintendenten) and the Navy Surgeon-in-Chief (Marinöverläkaren). When the King so appoints, the Navy Minister, under the King and in his name, exercises command over the Navy. The *Sjöförsvarsdepartement* or Department for Naval Defence deals with all matters relating to the Navy, with the exception of *kommandomål*, or Orders, which belong tho the *Kommandoexpedition*, or Order Office of the Department. The officials of the Department for Naval Defence are 1 Under-Secretary of State, 2 Permanent Secretaries, 1 registrar, and a number of clerks. A regimental officer of the Navy, assisted by 3 adjutants, is placed in command of the Order Office. The *Marinförvaltningen*, or Navy Board, is a Central Board, which in technical and economical matters exercises supervision over the Navy, subject to the control of the Navy Department. It consists of 1 director *(chef)*, who is a flag-officer or commodore, and 9 members, who are the heads of the nine sections of the Board, namely the Artillery, Torpedo, Mines, Nautical, Fortification, Engineer, Commissariat, Sanitation, and Civil Sections. In the Navy Board are also employed various officers and civil-military officials and some 20 civilian officials.

Marinstaben, or the Navy Staff, which was permanently organized in 1896, is under a Director *(chef)* of the rank of flag-officer or commodore. It works in four Sections, namely the Mobilization, the Communications, the Organization, and the Foreign Sections, each under its own head (a regimental officer of the fleet), and with altogether about 25 officers of the Navy.



Ironclad "Oscar II"

A. The Fleet. As has been stated above, *Marinen*, or the Navy in its widest sense, comprises two main divisions, the Fleet and the Coast Artillery. An account will first be given of the *Fleet*.

The Swedish fleet consists at present of the following **ships**, counting those now being built. The *royal yacht*, the Drott, 630 tons. *War-vessels:* 12 already built first-class ironclads (the Svea, Göta, Thule, Oden, Thor, Niord, Dristigheten, Äran, Vasa, Tapperheten, Manligheten, and Oscar II), each of from 3 270 to 4 660 tons, and the Sverige (referred to above) now being built, of 6 800 tons; 1 armoured cruiser of 4 800 tons; 3 second-class ironclads of 1 500 tons; 7 third-class ironclads of 460 tons; 5 torpedo cruisers of 840 tons; 4 gun-boats of from 400 to 600 tons; 8 destroyers *(jagare)* of 450 tons; 31 first-class torpedo boats of from 70 to 120 tons; 22 second-class torpedo boats of from 43 to 86 tons; 2 mining vessels and a number of submarines. Further, training ships, wireless telegraphy ships, works ships, hospital ships, depot and receiving ships, etc., altogether 20, most of them older ships, revamped for their special purposes.

The *total tonnage* of the war-ships of the fleet is about 80 000 tons. The number of *guns* mounted on the war-ships is somewhat over 500, namely 25 heavy, 132 medium heavy, and the remainder light guns. The total of the indicated *horse-power* of the war-ships, is about 250 000.

The first-class ironclads constitute the nucleus and main fighting strength of the fleet. Having been built during the years from 1886 to 1907, they can now hardly be considered "up-to-date", even though their guns in proportion to their calibre are of good quality. The *Sverige*, referred to above, which is now being built, will be in all respects far more powerful than the older ironclads. Her armament will consist of 4 28 cm, 8 15 cm, and 6 7·5 cm guns, as well as 2 45 cm torpedo tubes; the armour, which at the water-line will reach near to the stems, will be given a thickness of up to 20 cm. Two enormous turbine engines will propel the vessel at a speed of over 22 knots an hour. The crew will probably total somewhat over 400 men. The older first-class ironclads have an armament of 2 25 cm or 21 cm guns (the Svea, Göta, and Thule each only *one*), 4 to 7 medium heavy (12 to 15 cm) and 10 to 11 light guns (5·7 cm); the armour, which at the waterline extends along somewhat more than half the length of the vessel, has in general a thickness of from 18 to 29 cm. The torpedoes have a calibre of 45 cm. Two steam engines working independently, and aggregating 3 600 to 9 500 h. p. (in the older ironclads horizontal compound, in the more modern vertical triple expansion engines) propel the vessels at a speed of 14 to 18 knots. The chief dimensions are: length 76—96 m, greatest breadth about 15, and depth 5 to 5·5 m (those of the *Sverige* 120, 18·6, and 6·4 m respectively). The crews number from 256 to 331 men. All the vessels are built of steel with double bottoms, and are provided with armoured decks throughout. The *armoured cruiser*, the Fylgia, launched in 1907, is for its purpose almost "up-to-date", and is considered to be the handsomest vessel in the Swedish fleet. The armament consists of 8 15 cm guns, which, like the heavy and medium heavy guns of the ironclads, are protected by armour, and 14 5·7 cm guns, and 2 45 cm torpedo tubes. The armour otherwise consists of 10 cm vertical and 5 cm deck armour at the water line. The chief dimensions are: length 115, greatest breadth 14·8, and depth 5·9 m. The maximum speed is 22·7 knots. The *second* and *third class ironclads* are of the well-known Monitor type. They have recently been equipped with modern guns.

The *torpedo cruisers* are very similar to the older catchers of the British fleet. They were originally intended as scouts, but now they are not fast enough for this purpose (19 to 21 knots). The principal dimensions are: length

68 to 71 m, breadth 8 m, depth 3 m. The engines and boilers are under the waterline, and are protected by a light armoured deck (2 cm). The armament consists of two 12 cm and four 5·7 cm guns. Below the water surface there s a fore tube for 38 cm torpedoes. The crew numbers from 104 to 112 men.

Torpedo Boat.

The *gun-boats* have no appreciable value as warships, but are well adapted for practice in the Skärgård. The *Svensksund* is also an ice-breaker and a salvage boat. The *destroyers* are quite modern, though smaller and weaker than the latest foreign vessels of the same description. The armament consists of from 4 to 6 7·5 or 5·7 guns and 2 45 cm torpedo tubes. The principal dimensions are: length 66, breadth 6·3, and depth 2·7 m. The maximum speed is 32 knots and the number of the crew from 67 to 69 men. The *torpedo boats* are like those of other navies. They latest have a displacement of 120 tons (length 39, breadth 4·4, and depth 2·6 m), and are equipped with one fixed and one movable torpedo tube and 2 5·7 cm guns; they have a speed of about 26 knots. The older boats are smaller and have a speed of about 20 knots. The crew numbers from 15 to 18 men.

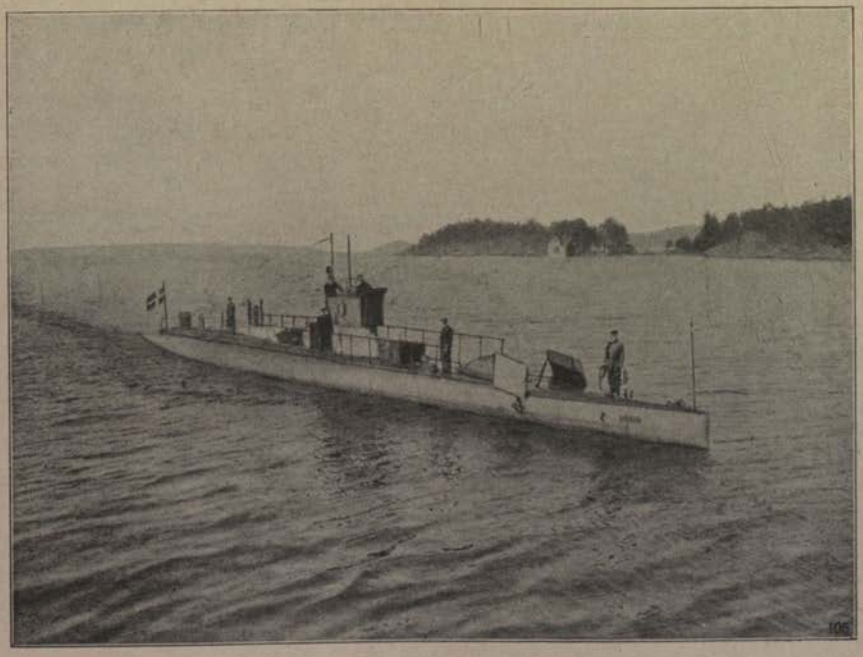
A number of *sub-marines* is finally to be noticed. *All these vessels have been built in Sweden* (excepting a few torpedo vessels), the first-class ironclads by Bergsund at Stockholm, Lindholmen at Gothenburg, and Kockum at Malmö;

the second-class and most of the third-class ironclads at the Motala Works in Norrköping, a few gun-boats and torpedo boats at the naval ship-building yards at Karlskrona, other torpedo boats at Stockholm.

The personnel and matériel of the fleet are distributed in two naval **stations,** namely Karlskrona and Stockholm, each under its own Commander-in-Chief. The Commander of the Station at Karlskrona is also admiral and commander of the Karlskrona fortress.

To each Station belongs a *naval dockyard* (*varv*) with docks, slips, workshops, stores, and so forth; its director is in economic matters immediately subordinate to the *Marinförvaltning*, or Navy Board; its work is distributed over five sections: the Artillery, the Torpedo, the Equipage, the Mines, and the Engineer sections. The naval dockyard at Karlskrona employs about 1 600 workmen, that at Stockholm 500 to 600.

The control and auditing of cash, victuals, clothing, equipment, etc., is in the hands of the Pay Office *(räkenskapskontor)* of the Station, which is made up of the majority of the navy intendants *(marinintendent)* of the Station.



Submarine ("*Valen*").

The **personnel** of the Fleet consists of the *Stam*, or professional seamen, the Reserves, and the Conscripts. The Stam and the Reserves comprise the following corps and bodies: a) military: the officers (together with the cadets), the non-commissioned officers, the seamen, and the ship boys: b) the civil-military: the naval engineers and the naval intendants, chaplains and instructors, medical officers, police and others.

The **staff of officers,** or active personnel, of the *stam* comprises, according to the establishment of 1915, 306 officers, namely: 4 flag-officers, or admirals, 8 commodores, 19 captains *(kommendörkapten)* of the first rank, 19 captains of the second rank, 101 lieutenant commanders, 104 lieutenants, and 51 sub-lieutenants. The naval officers are recruited from the naval cadets. Pursuant to the new regulations in force since 1912, the naval cadets go through a training of $3^1/_3$ years at the *Sjökrigsskolan,* or *Naval School;* immediately after they have entered the School in the month of June they go through a preparatory course *on land,* and afterwards a winter course and three summer courses *at sea,* alternating with two winter courses at the School *on land.* The courses at sea are on ironclads and armoured cruisers, as well as, for short periods, on smaller vessels. For admittance as a naval cadet one must have passed the *studentexamen,* and be between 17 and 20 years of age. The further training of the officers is accomplished, besides in the ordinary service on board and on land, in short courses at sea (gunnery, torpedo, and signalling courses), and in a seven months course at the *Naval High School;* occasionaly this is followed up by a higher course at the High School. — There are several different categories of officers belonging to the Reserves, altogether about 280 men. Most of them are reserve officers belonging to the mercantile fleet who have passed through a one year's training courses in the fleet, with or without a shorter *repetitionsövning,* or further course. Out of these about 40 are trained for service in the coast artillery.

The **non-commissioned officers** (*underofficer*) belonging to the *stam* number, according to the establishment of the year 1915, 227 of the first, and 454 of the second rank, to which must be added a few supernumerary engine foremen, and about 25 non-commissioned officers on monthly pay, altogether about 720 men. The non-commissioned officers are distributed over four departments and ten branches of profession: the *deck department,* comprising artillery and mines corporals and mates; the *economics department,* including medical, commissariat, and band corporals; the *engine department,* comprehending engine foremen, and the *artisans' department,* containing armourers (*rustmästare*), torpedo instructors, and quartermasters. The requirements for nomination to non-commissioned officer are $1^1/_2$ to 2 years service as a petty officer. There are reserve non-commissioned officers of different classes, numbering about 110.

The **stammanskap,** or professional sailors of the fleet, include *sjömanskåren,* or body of seamen (in a wide sense) *skeppsgossekåren,* or the ship-boys. The old system of distribution, in existence for over two hundred years, according to which the sailors were classified into *indelta,* or "allotment seamen", and *roterade,* or "equipment seamen", began to be discarded in 1888, and since that time the organization of the fleet has undergone repeated alterations. According to the establishment of the year 1915 the seamen (in a wide sense) number 4 000 men, distributed, like the non-commissioned officers, over four departments, but comprising 17 professional lines. The grades are petty officers (*underofficerskorpral*), corporals, and seamen (in a narrower sense), the latter being divided into 1st, 2nd, and 3rd class seamen. Chiefly for economic purposes, the crews are further divided into 2 gunner companies, 2 signalling companies, and 1 mines company, as well as 2 commissariat, 2 stoker, and 2 artificers' companies. Admission to the Navy is gained, for 6 years service', from the corps of ship-boys (usually at the age of 18 or 19) by the process commonly known as *karlskrivning,* which signifies the "*writing*", or enrolment, of the boy as a "*man*", or seaman; or else by engagement by "contract", that is, enlistment, for a period of from $3^1/_2$ to 6 years. Reengagement for a term of 1 year at a time is in certain cases permissible, in others obligatory, for participation in the instruction of a school for petty officers.

The *ship-boys* number, in the present establishment, 600, distributed in 5 companies. The age of admission is from 15 to 17; the period of training as a rule lasts two years, in winter at the Ship-boys' School at Karlskrona and at Marstrand, in summer on sailing training ships, and men-of-war. After having undergone the process of *karlskrivning* (that is having been promoted to seaman) a ship-boy is engaged as a second class seaman.

The **conscripts** of the fleet comprise: (a) all enginemen and stokers liable to service, and entered on the register of seamen (cf. Seamen Registry Office), and others on the register who have signed the articles six months ago or previously; (b) other conscripts required for the fleet, in numbers determined by the Government. A conscript who leaves a permanent engagement in the fleet or in the naval reserve is transferred to the contingent of naval conscripts, or to the landstorm. — The term of service is, as in the army, (from 1915) 15 years in the *beväring*, or active navy of which 11 are served in its first *uppbåd*, or levy, and 4 in its second *uppbåd*, and 8 years in the *landstorm*. Those who have previously been engaged in the *stam*, or "standing navy", belong during their whole term of service in the *beväring* to its first *uppbåd*, as also certain classes of students during the whole of their term of conscription. — The period of training in time of peace is for military fit (*vapenföra*) conscripts entered on the register of seamen (that is those enrolled, for *allmän tjänst*, or "general service") 360 days at a stretch during the first and second year, for other military fit conscripts (those enrolled specially for service at sea or at a naval station) either 360 days at a stretch during the first and second year, or 260 days during the first and second year, and 100 days during the fourth. Students and officers of the mercantile fleet are trained for 500 days. Military unfit (*icke vapenföra*) assigned to the fleet train for 240 days. — The number of those enrolled for "general service" is varying considerably, and a very high annual percentage of those enrolled for service at sea fail to turn up at the muster. About 1 400 annually undergo training. The number of those enrolled for service at sea has at present been fixed at 620 annually; 209 military fit men are enrolled for service at the naval stations. According to the latest regulations, 504 of the military unfit conscripts are to be assigned to the navy.

The **training** of the seamen is carried *on land* at schools for recruits, corporals, and petty officers, etc; *at sea* at schools for gunnery, signalling, torpedoes, mines, submarines, at courses for various handicrafts, and also in the form of service at *tillämpningsövningar*, or "application exercises", that is, exercises in which the training at the schools is *applied* in practice. The training cruises of the fleet have recently been considerably increased in extent. They are inspected by the above mentioned "Inspector of the Navy Manœuvres" (*inspektören av flottans övningar till sjöss*), who in time of war is commander-in-chief of the main body of the fleet, namely, the Coast Fleet, and in time of peace is as a rule the commander-in-chief of those parts of the fleet which are annually combined into a coast fleet.

The **civil-military** (*civilmilitär*), personnel numbers 46 permanent (*ordinarie*) officials in the naval engineers, 74 in the staff of naval intendants, 6 chaplains and instructors, and 48 medical officers. There are, besides, a good many supernumerary or assistant (*extraordinarie*) officials. There are a number of dockyard foremen, artisans, etc, on monthly or daily pay.

B. The Coast Artillery. The Coast Artillery in the widest sense of the term comprises the coast fortresses and positions, namely Vaxholm and Oscar Fredriksborg Forts, Karlskrona Forts, Älvsborg Fort and the coast positions of Fårösund and Hörningsholm with all the fortification

works, guns, mines, torpedoes, watch-towers, and other matériel, together with the naval and military personnel belonging to them. Prior to 1902 the first-named fortress (Vaxholm) belonged to the *Army*, and was manned chiefly by the Vaxholm Artillery Corps, whereas Karlskrona Fort belonged to the *Navy*, and was manned by the Karlskrona Artillery Corps and by certain other parts of the naval personnel. The other coast positions were at that time not yet built or completed.

From the year 1902 all the coast positions belong to the *Navy*, and at the ingress of that year there was formed a special branch of the service, the Coast Artillery in a more limited sense, intended to supply the chief personnel of the coast positions. The above-mentioned Artillery Corps were abolished and were transferred to the new branch of the service together with the personnel of the Mines Corps, besides which the Coast Artillery was gradually enlarged with new personnel.

The **personnel** of the Coast Artillery, like that of the Fleet, consists of the *Stam*, or permanent body, the Reserves, and the Conscripts. The command of the personnel of the Coast Artillery is exercised, next to the King, by a general in the capacity of *Chef*, or commander-in-chief, of the Coast Artillery. The remaining personnel is distributed into two regiments, the Vaxholm and Karlskrona Coast Artillery Regiments and one corps, the Älvsborg Coast Artillery Corps, which are organized on much the same lines as those of the Army. The Vaxholm Coast Artillery Regiment is stationed at Vaxholm and Oscar Fredriksborg Forts, with a Coast Artillery Detachment at the coast position of Fårösund, and a smaller division at Stockholm. The Karlskrona Coast Artillery Regiment is stationed at Karlskrona Fort and the Älvsborg Coast Artillery Corps at Älvsborg Fort. The coast position of Hörningsholm is still without a peace garrison.

The **staff of officers** belonging to the *stam* consists, according to the establishment of 1915, of 1 general (the *Chef* mentioned above), 2 colonels (heads of regiments), 3 lieutenant-colonels, 7 majors, 42 captains, 38 lieutenants, and 20 sub-lieutenants, in all 113 officers. The officers of the Coast Artillery are recruited from the Coast Artillery Cadets, who are admitted, after passing the *studentexamen*, between the ages of 17 and 20: they go through a course of about $2^1/_2$ years at the regiments, and also *on land* at the Naval School, and *at sea* on board the ships of the fleet. The further training of the officers is carried on in courses for sub-lieutenants, in gunnery and mining schools, and also at the Naval High School, besides the ordinary service in the regiments, in the Supervisory Board, etc. — Besides those mentioned above, there are only 8 officers in the Reserve.

The staff of **non-commissioned officers** *(underofficer)* comprises, according to the establishment of 1915, 60 non-commissioned officers of the first grade (sergeant majors etc.) and 122 non-commissioned officers of the second grade (sergeants etc.) distributed into Artillery, Mines Commissariat, Enginemen's, and Artisans' departments. To be eligible for promotion to *underofficer* one must have served as a petty officer for a period of at least $1^1/_2$ years. — There are about 10 non-commissioned officers in the Reserve.

Stammanskapet, or the body of professional men, comprises, according to the

establishment of 1915, 1 288 men, distributed into 12 artillery, 4 mining, and 2 artisan companies. The grades are *underofficerskorpral*, or petty officer, corporals, and *meniga*, the latter 1st, 2nd, and 3rd class gunners (*kustartillerister*). Admission is obtained by "contract", that is, enlistment, for a term of from 3 to 4 years. Training is undergone chiefly in schools for recruits, corporals, non-commissioned officers, gunnery, and mining, and in *tillämpningsövningar* (42 days).

The **Conscripts** consist of those enrolled for service in fortresses; at present they number 1 187 military fit (*vapenföra*) and 416 military unfit (*icke vapenföra*). The training in time of peace is for the former 323 days at a stretch, commencing in the first or second year, and a further course (*repetitionsövning*) of 42 days during the fourth year, for the latter (the military unfit) 240 days at a stretch. Students etc. are trained for 500 days.

The **civil-military** personnel is taken from the naval engineers, the naval intendants, and the naval medical officers, except the *auditörer* or naval lawyers, the regimental chaplains, and the bandmasters, who are appointed from the Coast Artillery.

Under the *Navy Department*, are the *Lotsverket*, or Pilot Service, the *Sjökarteverket*, or Nautical Chart Office, the *Nautisk-meteorologiska byrån*, or Nautico-Meteorological Office, the *Navigation Schools*, the *Kungl. Örlogsmannasällskapet*, or "Royal Man-of-war Society", and *Flottans Pensionskassa*, or Navy Pension Fund, and in certain respects the *Sjömanshus*, or Seamen Registry Offices.

A brief mention must be made of those of the above institutions which are not dealt with in other sections of this work (cf. Index).

The *Kungl. Örlogsmannasällskapet* was founded at Stockholm in 1771, with the object of sustaining and promoting the study and exercise of naval tactics. In 1778 it was resolved to remove the Society's sphere of activity to Karlskrona, which has continued to be its headquarters ever since the first meeting of the Society there in 1784. By royal letters-patent of the 9th May 1805 the Society was placed under royal patronage. The Society consists of an unlimited number of honorary members and corresponding members, and a definite number of active members (officers, and those of equivalent rank, in the Navy). Each year a *föredragande* or "reporter" is elected in different branches of naval science, on whom it devolves to present the annual report to the Society. Since 1835 the Society publishes a nautical periodical called the "Tidskrift i Sjöväsendet".

Flottans Pensionskassa, or Navy Pension Fund (embracing the whole Navy) originates from the fund called "*Amiralitetsarmbössan*", afterwards converted into "*Amiralitetskrigsmannakassan*", which in the early nineties was rechristened with the less clumsy name of "Flottans Pensionskassa". The latter, which is partly a private, partly a State institution, is governed by *fullmäktige*, or delegates, nominated by the members; it is administered by a Royal Board (*Direktion*), the headquarters of which is at Karlskrona, and which consists of a president, three directors with two deputies, a first commissioner, and seven officials. The monies which it administers are the funds called the *pensionsfond* and the *gratialfond*, members' fees, special grants, interests, fines and penalties, etc. The officers and non-commissioned officers, and those of equivalent rank are *ipso facto* members of the Fund. In certain cases seamen can obtain from *Statsverket* or the Public Treasury, the grant of a pension to be paid out by the Fund, although seamen do not, strictly speaking, belong to it.

Prison System.

The Swedish prison system in its present form is the result of about half a century's persistent and thorough work of reformation.

The initiative to these reforms was taken by the Crown Prince of that day, afterwards King Oscar I, through his well-known work: *On Punishments and Prisons,* published in 1840. In this work he advocates the Philadelphian system (that of separate confinement) as the most suitable basis for the treatment of prisoners in general. The old or Auburn system (life in common, but under the strictest silence) ought to be retained only for hopeless cases of relapse and for prisoners "sentenced to a longer term of imprisonment than experience has shown can be spent in isolation without risk of injury to the health of the prisoner". This system should, however, be "given up in the same degree that experience recommends a more extended application of the separate system". The work of building provincial prisons according to the separate confinement system was immediately undertaken, and most of the läns of the Kingdom had prisons of this kind when the prison law of 1857 was promulgated. Through this law the separate confinement system was made obligatory for all sentenced to penal servitude for a term of two years or less. Separate confinement of *prisoners under trial* was completely realized.

The separate confinement system was very considerably extended through the prison laws of July 29, 1892 and June 22, 1906. — These laws provide that each prisoner sentenced to penal servitude shall, as far as possible, be kept in separate confinement for the whole time, if this does not exceed three years; but when the term is longer, for the first three years. A prisoner condemned to imprisonment, shall (as a rule not more than two years) be under solitary confinement for his whole term.

The prisons of the Kingdom — except for several jails in the towns and hundreds — amount to forty, with more than 3 000 solitarycells in all; five of these are *central prisons,* viz., *Långholmen* near Stockholm,*Härlanda* near Gothenburg, *Malmö, Härnösand,* and *Växjö,* intended partly for separate confinement, partly for imprisonment in common, but the prisoners in the latter are guarded at night each in his own cell. That at Växjö is the central prison for women, the rest are for men. Of the remaining jails, the 14 larger ones are called *penal prisons,* the others *state jails,* all intended only for solitary confinement. For demented prisoners there are separate departments established at the Härnösand central prison and at the state jail in Västervik. All these prisons, except that at Långholmen, are also used for the retention of prisoners undergoing their trial. The jails of the towns and hundreds are also under the supervision of the state authorities. Of prisons in this class, that at Stockholm contains about 280 cells.

At the beginning of 1914 the number of *prisoners committed for trial* for crime was 261, those under *penal servitude* 1 487, among whom 58 were sentenced for life and 469 for a specified period over 2 years, and 567 *committed to prison,* including 363 serving their time in default of payment of fines. Of

the whole number 2 315, there were 2 162 men and 153 women. Out of those under penal servitude 125 were between 15 and 20 years old.

For those sentenced for vagrancy or mendicity or to compulsory work by the poor-law, there are four *penal workhouses*, two for men, viz. at *Svartsjö* and in *Karlskrona* each with room for 300 and two for women: in *Norrköping* for about 150, and *Landskrona*, 100; compulsory labour is done in common, but the nights are passed in solitary confinement. At the beginning of 1914, there were 492 male and 186 female prisoners in workhouses, doing compulsory labour, with 37 and 6 respectively charged with vagrancy or mendicity, retained for examination and sentence.

Photo. HARRY LINDROHM, Gothenburg.

Central Prison, Härlanda.

The total number of *prisoners* of different categories kept in prisons and penal workhouses was at the beginning to 1914, 2 993, or 5·31 on each ten thousand of the population. During earlier periods the corresponding figures were:

Annually	Mean population	Aver. number of prisoners	Per 10 000 inhab.
1861—1870	4 079 233	5 392	13·22
1871—1880	4 386 953	4 681	10·67
1881—1890	4 673 225	3 954	8·46
1891—1895	4 831 814	3 290	6·81
1896—1900	5 032 074	3 171	6·30
1901—1905	5 214 349	3 132	6·01
1906—1910	5 405 891	2 933	5·43
At the beginning of 1914	5 638 583	2 993	5·31

The great decrease in the number of prisoners depends, no doubt, to a certain extent, on a decrease of crime, witnessed by the figures quoted. In large

measure, however, it depends on a more humane exercise of the law. It is now especially customary to pardon prisoners sentenced for life, if they have shown good behaviour for a long time. In 1855, there were in the prisons of Sweden 1 520 life prisoners compared to only 58 in 1913.

The average number of *new prisoners,* sentenced to penal servitude, received each year during 1904—13 was 1 839, of which number only 164 were women. The yearly number sentenced to imprisonment without the option of a fine during the same period was 1 070, and the number sentenced to prison in default of payment of fines was 15 562. Of the last-mentioned two groups, there were 46 and 721 women respectively.

Finally, in this connection may be stated the number of *executions* in earlier and more recent times. Of each million inhabitants 14·91 were executed yearly during the period 1749—73, but in 1774—95 the average number had already decreased to 4·06. During the last 10 years only one person has been executed.

From 1907 inclusive, since the system of *conditional release* has been applied in the country, such released prisoners were, down to Okt. 1914, 203 in number. The effect has been remarkably good, inasmuch as only one was reported to have lapsed during the time of probation.

The inmates of prisons are *employed* chiefly on work for the benefit of the State, especially carpentry, tailoring, shoemaking, saddlery work, and brushwork, in which the prisoners are instructed by qualified foremen. For this purpose, those undergoing sentence are distributed among the various prisons according to the callings they seem best adapted to, and each of the larger prisons is utilized for one trade or more. At the compulsory workhouse in Svartsjö, to which is joined a large area of land, extensive farming, cattle raising, and quarrying operations are carried on with the help of prison labour. At that in Landskrona a number of females are occupied in the cultivation of gardens, especially for the raising of medicinal herbs.

Touching the development of carrying on work among prison institutions we may state that, during 1904, the value of the labour amounted to 211 372·73 kronor, with a net profit (after deducting expenses of 153 702·12 kronor, while the year 1913 can show for its respective figures 730 837·23 kronor and 637 486·51 kronor.

With regard to the *treatment of prisoners,* it has already been stated that it is based chiefly on the separate confinement system. Only the relatively few prisoners sentenced to penal servitude for a term exceeding three years and those sentenced for life are transferred, after three years of separate confinement, to work together in large workshops, but are carefully kept apart while not working, and spend the night in solitary cells. The compulsory workhouses, where the prisoners are always together at work, have all night-cells provided.

In the application of the *separate confinement system,* the aim has always been, as far as possible, to prevent results of isolation injurious to the prisoners, and to make their conducive to their own reformation. Various means are employed for this, such as systematic and regular work which demands assiduous attention from the foremen; daily exercise in the prison yards for at least half an hour; rational physical exercise and gymnastics, both in the cells and under supervision outside in the grounds; libraries chosen with discrimination (about 50 000 vols. altogether); instruction in religion and school-subjects; and by visits in the cells by the prison officials, as well as by other voluntary visitors; absolutely strict obedience to rules and regulations is required, and all means for self-indulgence, as for instance tobacco and snuff, are totally forbidden for those sentenced to penal servitude or to imprisonment in default of payment of fines. Prisoners on trial and those sentenced to simple imprisonment may procure better diet and more comfort than can commonly be had in the prison, if they

have the means and desire to do so, and if the order and security of the prison is not thereby interfered with. A representation has been lately made by the Board of Prisons to diminish solitary confinement for young offenders and female prisoners, and to reduce that of other prisoners also, after a period of probation and for more individual reasons.

Work in Cow-house, Svartsjö.

The very important question of *prison labour bounties*, and measures necessary to prevent prisoners from squandering the money so gained on their release, has been satisfactorily solved by the regulation concerning prisoners' bounties of Oct. 24, 1890, and the alteration of that law made on June 22, 1900. The accumulated payments are deposited in the Post-Office Savings-Bank and can, if they exceed 20 kronor, be taken out upon release, only at a certain monthly rate. If the released prisoner, during this time, is arrested for vagrancy or crime, he has no right of disposal over the monies in hand, and, if he is convicted and sentenced for crime or to compulsory labour, he loses it. It is clear that such a regulation tends to a certain extent to counteract relapse into crime. The total sum deposited in the Post-Office Savings-Bank, for prisoners released in 1913, amounted at the time of their release to 23 678 kronor. The amount forfeited the same year through relapse was 808 kronor.

In order to enable prisoners to some extent to aid those who, by their fault, have fallen into want, and to make it possible for them to keep and resume family ties, they are allowed to send the "available" part of their gratuities to their nearest *relations*. The Prisons Board may also augment these remittances from

resources (David Carnegie's fund and B. A. Danelius's fund), donated for the purpose. During the years 1903—12, the Board of Prisons in this way added 24 088 kronor from the said fund.

Respecting operations for the Aid of *Released Prisoners*, reference is made to them in the article, "Social Rescue Work". The prison authorities look after discharged prisoners through the agency of a *central society* and of an employment bureau, the *central help bureau*, which is under their direct control; there is also a reception home on an estate called *Åby* in Uppland. According to the regulation in force, it is incumbent on the prison chaplains and the other officials to strive for this end, and considerable work is done by them in this matter. As regards finances, the Board has at its disposal for the work in question partly the profits from the prisoners' savings fund (the capital amounting to about 404 000 kronor) partly private subscriptions, and in part a state contribution, 16 000 kronor a year. In one form or another help was bestowed on 2 791 released prisoners in 1913. For the aid of released prisoners there are different societies: e. g., besides the "Central Society" (above mentioned), the "Queen's Protection Home" (Drottningens skyddshem) and 23 societies in the different läns.

All penitentiaries and penal workhouses are governed by the *Royal Board of Prisons*. This Board consists of one Director General and two Bureau Chiefs, of whom the one deals with matters of administration, the other those of finance. The different penitentiaries are managed by *governors* or *superintendants*. At each penitentiary are also appointed a chaplain and a medical officer. At the central prisons are besides keepers or assistants. The latter also act as assistant superintendants. The warders are chosen with scrupulous discrimination, and, by raising their pay from time to time, it has been made possible steadily to raise the standard of education and moral fitness. A warder receives, when he has been ten years in the service, 1 600 kronor, besides rooms and fuel.

The total *net expenditure* for the prisons of the Kingdom, including the maintenance of buildings but not the erection of new prisons, reached 2 663 971 kronor in 1913. The cost of daily rations for each prisoner in the same year was 38·68 öre.

Hygiene and Care of the Sick.

The expences involved by efforts to preserve the public health are met chiefly by the county councils and communes, apart from a considerable contribution from the State as well; but as the salaries of officials also are paid by the State, which supervises by means of responsible authorities the whole of this department of the administration, it might very properly be transferred to State management altogether.

There is no mention of doctors in the history of Sweden before the 16th century. They were educated at medical schools abroad and employed partly in the service of the Court and of the wealthy nobility, partly in that of the army. They lacked internal unity, and were independent of any medical authority. It was not till long afterwards that traces

appear of a regulated medical service. Some doctors practising in Stockholm obtained by humble petition the right of establishing a *collegium medicorum*, which was endowed with certain privileges in 1663, during the regency of Charles XI; and out of this clique of physicians, originally private, gradually developed the legal authority that has to superintend the hygiene of the kingdom.

The control of the entire civil medical administration in Sweden is exercised by the *Royal Medical Board*, and over that of the military and naval forces by the *Army and the Navy Medical Boards*. The first is composed of a President, termed Director General, and six Bureau-Chiefs. Among these, four are doctors and one a veterinary surgeon. For controlling matters affecting the special branch of administration in the Army and Navy, there are Army and Navy Surgeons in Chief respectively. These officials are appointed by the Government.

Everyone who has taken the degree of Licentiate in Medicine has a right to practise as a **physician.** The Swedish University Medical Course is a long one, averaging about 9—10 years after matriculation, and, generally speaking, a man seldom completes his studies before he is 28 or 29. Since 1870, the right of practising medicine has been granted to women also. Students receive the requisite training at the two Universities of Uppsala and Lund, as well as at the Karolinska institutet in Stockholm (Caroline Medico-Surgical Institute).

The number of physicians at different periods since 1860 appears in Table 50. At the beginning of 1913, there were in Sweden 1 562 *Licentiates in Medicine*, amongst whom nearly 40 were ladies. If from these figures a deduction is made for the number of physicians who are prevented from practising, either on account of their official positions, their age, or for some other reason, there remain about 1 350, who may be considered directly occupied with the medical treatment of civilians and the services.

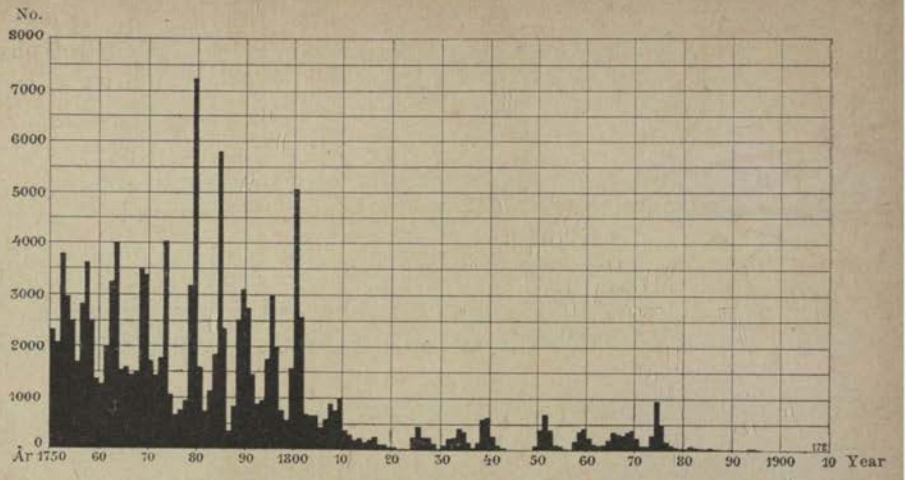
TABLE 50. *Staff and Institutions for Medical Relief.*

At the end of	Total of					Per 100 000 inhabitants			
	Physicians	Midwives	Hospitals[1]	Sick-beds[1]	Apothecaries' shops	Physicians	Midwives	Sick-beds	Apothecaries' shops
1860	445	1 525	54	3 171	159	11·5	39·5	82	4·12
1865	505	1 717	63	3 760	187	12·3	41·7	91	4·55
1870	560	1 864	83	4 733	200	13·4	44·7	114	4·80
1875	549	2 151	108	5 299	227	12.5	49·1	121	5·18
1880	555	2 264	133	6 772	234	12·2	49·8	148	5·12
1885	624	2 377	152	7 385	245	13·3	50·8	158	5·23
1890	806	2 478	187	8 416	259	16·8	51·8	176	5·41
1895	1 002	2 626	229	9 480	297	20·4	53·4	193	6·04
1900	1 131	2 782	250	11 077	322	22·0	54·2	216	6·27
1905	1 198	2 916	301	12 414	351	22·6	55·1	234	6 63
1910	1 247	2 988	333	15 997	369	22·6	54·1	290	6·68

[1] Lazarets, cottage hospitals and hospitals for infectious diseases, military- and lying-in hospitals, children's homes, and lunatic asylums not included.

Deaths from Small-pox.

Per million inhabitants.



With the exception of somewhat more than 400, who have exclusively devoted themselves to private practice, the number of physicians *appointed* to attend to the needs of the community at large is: 338 for rural districts, 163 for towns, 257 for hospitals (among them 33 at consumptive hospitals), 58 for State Lunatic Asylums and Homes for the mentally afflicted, 43 for the Prisons, 99 for the State Railways, etc. It is here to be observed that in cases where two or more appointments are held by the same medical man, they are counted in each classification; vacant posts are included throughout.

In the beginning of 1913, 195 of the doctors appointed for the country, vacancies included, were *Provincial Medical Officers* — together with the official doctors of the towns, the oldest medical organization in Sweden —; they are paid exclusively by the State; there are also 143 *Supernumerary Provincial Medical Officers*, who are paid by the State and the communes jointly, by the communes alone, or else by private people. Among the Provincial Medical Officers of each län (the towns of Stockholm, Gothenburg, and Malmö excepted) there is one who bears the title of *First Provincial Medical Officer*, and acts as inspector over the civil medical service — especially Public Health — in his entire län. The hygiene and care of the sick in the immediate neighbourhood of his county town is, in 6 läns, also superintended by the First Provincial Medical Officer. For their assistance there are State-appointed *Assistant Provincial Medical Officers* — one for every First Provincial Medical Officer. These six, together with 7 Assistant Supernumerary Provincial Medical Officers are included above. In the towns there are 163 specially appointed medical officers for towns and urban districts. — For medical service in the Army and Navy, there are 175 Military Surgeons and several hospitals.

Photo. Fr. G. Klemming, Stockholm.

Seraphimer Hospital, Stockholm.

The **public arrangements for the care of the sick** are at a very high level in Sweden. They are, principally, in the hands of **hospitals** of which a considerable number are now to be found. The first real hospital exclusively intended for the cure of bodily ailments, is the Seraphimer Hospital (Serafimerlasarettet) in Stockholm, which was opened in 1752. Hospitals were soon founded in other towns, too, and it was ordered by a Royal rescript of 1765 and 1776, that county hospitals, provided with separate sick-wards for venereal diseases, should be established all through the kingdom. The superintendence of these was entrusted to the Seraphim Order, but in 1859 and 1864 it was transferred to the *Collegium medicorum*, the present Royal Medical Board.

In every län, the county councils have established hospitals — according to the hospital regulations of 1901, containing 25 sick-beds at the least — and they have been placed each under the direction of its own governing body. By the statute mentioned, towns which lie outside county council areas lie under identical obligations. The closest supervision it there exercised by the communal Boards of Health, which constitute the governors of institutions of health in every parish; they can also appoint, if they think good, special sub-governors.

The care of the feeble-minded in the kingdom is also regulated by a special statute — the present one came into force in 1901. This duty was performed in days past by institutions endowed with munificent donations, but it is now incumbent only upon the State, although several parishes have founded their own asylums, which, nevertheless, remain under the control of the Royal Medical Board.

There are State hospitals — apart from asylums, and (connected with them) institutions for the reception of the feeble-minded, and the Lunatic Asylum at Långbro (for which see below) — hospitals for the care of civi-

TABLE 51. *Hospital Returns.*[1]

Annually	Mean population	Annual number of			Per 1 000 inh.		Days of maintenance per individual admitted	Dead out of 1 000 admitted
		Sick people admitted	Days of maintenance	Dead	Admitted	Days of maintenance		
1861—65 . .	3 993 000	23 043	841 960	1 526	5·77	211	36·5	66·2
1866—70 . .	4 166 000	28 342	1 103 040	1 876	6·80	265	38·9	66·2
1871—75 . .	4 274 000	30 551	1 162 520	2 403	7·15	272	38·1	78·7
1876—80 . .	4 500 000	33 399	1 280 631	2 233	7·42	285	38·3	66·9
1881—85 . .	4 605 000	42 245	1 525 260	2 643	9·17	331	36·1	62·6
1886—90 . .	4 742 000	49 592	1 648 574	3 069	10·46	348	33·2	61·9
1891—95 . .	4 832 000	60 400	1 910 454	3 673	12·50	395	31·6	60·8
1896—00 . .	5 032 000	75 989	2 366 594	4 234	15·10	470	31·1	55·7
1901—05 . .	5 214 000	86 608	2 632 217	4 661	16·61	505	30·4	53·8
1906—10 . .	5 406 000	106 564	3 217 970	5 827	19·71	595	30·2	54·7

[1] Hospitals (for civilians and services), cottage hospitals and the Hospital for Epidemic Diseases in Stockholm included, but not lying-in hospitals, children's hospitals, and lunatic asylums; from 1901 civilian hospitals only, cottage hospitals, and hospitals for infectious diseases are included here.

lians which accordning to statistical returns, numbered in the year 1912 altogether 502, comprising 80 hospitals proper (with a large number of special wards for venereal and mental diseases), 78 cottage hospitals, 186 hospitals for epidemic diseases, reception home for the feeble-minded, 56 for consumptive patients, 29 private hospitals and nursing homes; 10 children's hospitals, 2 children's homes and 4 seaside sanatoria for children; 4 convalescent homes, 2 institutions to receive emergency cases, 11 lying-in hospitals, 18 hospitals at charitable institutions, 11 infirmaries for incurables, 1 alysum for lepers, and 6 homes for inebriates; the total of sick-beds is 25 560, being in the proportion of one every 220 inhabitants.

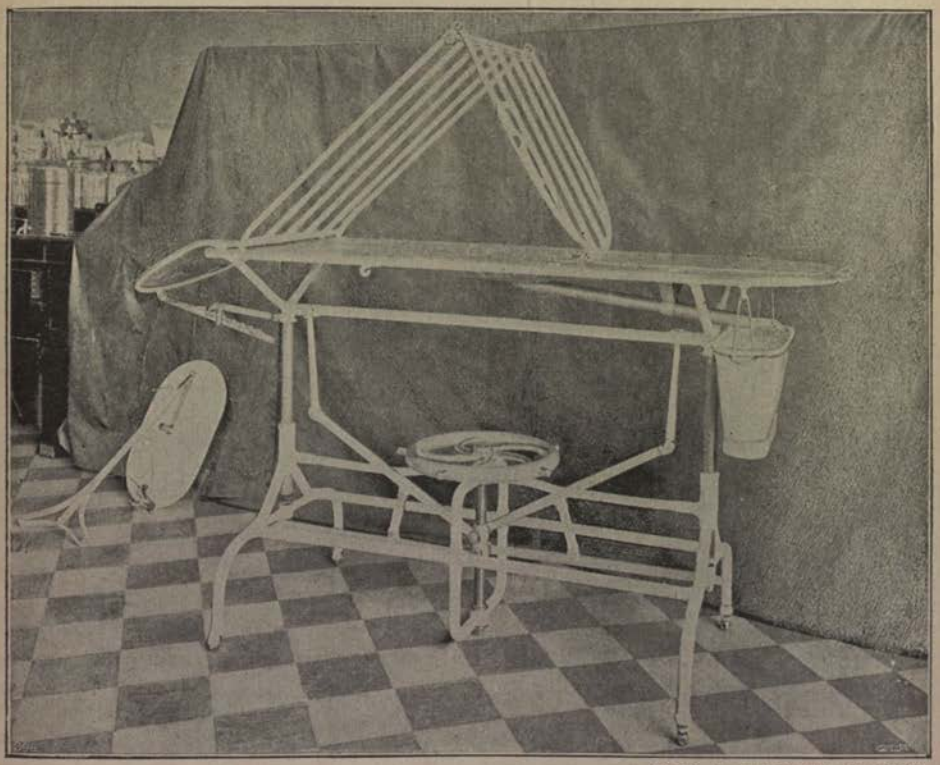


Photo. G. LINDQUIST, Stockholm.

Operating Table, constructed by A. Stille, Stockholm.

Expenses for the care of the sick in hospitals proper, cottage hospitals, and those for infectious cases have increased year by year, and public records show that in 1912 they amounted to 10·09 million kronor, or 2·65 kronor daily per patient. Besides this there is the outlay on new buildings and extensive repairs, amounting in the same year to 1·75 million kronor. These disbursements included, the daily cost per patient has risen to 3·11 kronor. The *revenues* of the aforesaid institutions amounted in the same year to 11·9 millions, largely made up of private payments, and grants from county councils, to the extent of 8·7 millions (for larger communes by the communal authorities 3·1), payments by patients 2·7, and in a less degree, 0·09, from contributions, donations, gifts etc., and a State

grant of 0·14, all in millions of kronor. *Total* payments from communes and county councils for hygiene and care of the sick (buildings included), according to calculation, usually amount to about 3 times as much as the afore-mentioned expenses for the care of the sick in hospitals.

At the end of 1913, there were 18 public independent institutions for the care of the mentally affected (including chronic cases), with altogether 9 547 places or 169 to every 100 000 inhabitants (in the year 1860 this was 26, and in 1900, 98, for the same population). The asylum system has been rapidly developed in the last few decades, and many new places have been provided, but still more are wanted, if every feeble-minded person is to obtain proper attention in good time. The extent of lunatic asylum care is shown in Table 52.

The whole number of *lunatics* (not reckoning idiots), according to the census obtained from parish registers and Boards of Health in 1913, amounted to 17 104 or 304 per hundred thousand inhabitants. The number has increased, according to later investigations, but this *may* — at any rate partly — be owing to more exact statistics. The percentage of lunatics in Sweden is not particularly high in comparison with that of other nations.

At the end of 1913, there were 508 **Dentists,** 75 of whom were ladies. The right to practise dentistry is granted to all who have passed their matriculation and dental examinations. The latter require a time of three years at least. The Odontological Institute (of the Caroline Medico-Surgical Institute in Stockholm), is the home of dental training.

With regard to **Midwives,** there were at the end of 1912, 3 047, corresponding to 32·3 for every ten thousand of the female population of the ages of 20—45 years at the beginning of the year, or about 63 per ten thou-

TABLE 52. *Lunatic Asylums.*[1]

At the end of	Places at all asylums	Ditto per 100 000 inh.	Annually	Lunatics attended to[2]	Days of maintenance	Lunatics admitted[3]	Cured	Dead	Expenses Kronor[4]
1860 . .	1 008	26	1861—65 . .	1 064	388 406	309	125	79	327 485
1865 . .	1 241	30	1866—70 . .	1 211	441 933	330	138	77	400 545
1870 . .	1 322	32	1871—75 . .	1 382	504 482	376	146	80	514 789
1875 . .	1 513	35	1876—80 . .	1 603	585 050	423	135	93	682 786
1880 . .	1 991	44	1881—85 . .	2 026	739 538	657	219	114	921 253
1885 . .	2 257	48	1886—90 . .	2 416	882 016	741	258	125	1 020 850
1890 . .	2 625	55	1891—95 . .	3 285	1 199 110	1 035	255	163	1 421 911
1895 . .	4 259	87	1896—00 . .	4 241	1 548 164	955	270	197	1 819 976
1900 . .	5 056	98	1901—05 . .	5 037	1 838 518	764	213	208	2 486 147
1905 . .	6 328	120	1906—10 . .	6 709	2 448 667	1 263	281	309	3 802 346
1910 . .	7 866	142	1910	7 616	2 779 847	1 850	405	353	4 439 062
1911 . .	7 872	142	1911	7 899	2 883 118	1 593	510	352	4 637 988
1912 . .	9 480	169	1912	8 505	3 112 944	2 730	526	409	5 456 070
1913 . .	9 547	169	1913	9 427	3 440 903	2 116	623	484	6 066 887

[1] With certain reception houses. — [2] Days of maintenance divided by 365. — [3] Not including the patients admitted from other independent institutions for lunatics. — [4] For the care of the patients, not including expenses of new buildings and maintenance of buildings etc.

sand married women below forty-five. There are establishments in Stockholm and Gothenburg for their training. A midwife is obliged to study for at least nine months. After that, the majority of midwives go through a course of instruction in the use of obstetrical instruments. In certain exceptional cases, such a midwife is permitted to use instruments in the exercise of her profession. For older midwives revision courses are given at the places of instruction.

In the public *Lying-in Hospitals*, containing 382 beds, 11 816 patients were received for treatment in 1912. Of these 29 died, corresponding to 0·25 %. The period of treatment for each patient averaged 10·0 days.

The profession of **Barber Surgeon,** originating in the ancient barber-guild, still survives in Sweden, and is now represented by about 50 members distributed in the towns.

After studying for somewhat more than a year and passing an examination, the barber surgeon was allowed to treat wounds, slight boils, and other complaints belonging to the domain of "petty surgery", as well as to afford first aid in cases of accident, such as hemorrhages, dislocations, and fractures. This institution, which is now regarded as superfluous, is, in consequence of a decree issued in 1896, doomed to extinction on the decease of the present holders of the title.

At the beginning of 1913, there were in the kingdom about 1 000 trained **Sick-Nurses,** engaged at hospitals, cottage hospitals, asylums, and other similar establishments, or employed privately in towns or in the country. With the special object of securing better nursing for the sick in the country and a number of towns, 513 nurses were appointed by the end of 1912 to the Provincial and Extra Provincial medical districts and in communes.

Girls who have received a good and careful education are received as pupils, and trained in nursing at the Institute of Deaconesses, the Sophia Hospital (Sophiahemmet), the Red Cross Home for Nurses, and the South Sweden Home for Nurses. The period of study ranges from two to three years. Training in the care of the sick is also given at a number of hospitals in the capital, and in most of the larger hospitals in the provinces.

The law enacts that drugs and medicines can be sold only at the **shops of qualified Pharmaceutical Chemists.** The number of such chemists is limited, and a new business of that kind cannot be started without the special consent of the Government. Their establishments are subjected to the supervision of officials specially appointed for that purpose, and also to the annual inspection of the First Provincial Medical Officers. According to the latest official reports, there are 371 apothecaries' shops in Sweden; (cf. Table 50). For the technical instruction of chemists, which, like that of medical men, is remarkably thorough, there is a *Pharmaceutical Institute* in Stockholm. The period of study after matriculation extends over at

least 7 years, the preparatory practice during an apprenticeship at a pharmacy included.

No country shows a *lower death-rate* or a greater average length of human life than Sweden. The reason of this must be sought, not only in such circumstances as the isolated position of the country, its climate, the enlightenment of its people, their way of life, their distribution over the country, etc., but also in the high standard which the **Care of Public Health** has attained in Sweden.

The public health of the entire kingdom is supervised by the Royal Medical Board; that of every län, by its governing body. It is supervised in the towns, market towns, municipal communities and those which have sprung up round railway junctions, by special authorities, the Boards of Health; in the country by the general executive authorities of the communes, the Communal Boards — in both cases with the assistance of their respective medical officers.

The above-mentioned Boards are bound by law to see that there is within the parish a plentiful and accessible supply of good water for drinking and cooking purposes; that springs, wells, and other places from which water is taken is not polluted; that risk of pollution in or near dwelling houses is removed; that manufactories and trades be not established, arranged, or carried on in a manner likely to prove detrimental to the health of the workmen or the neighbours, etc. The obligations of these authorities are expressed in the "statute of public health", promulgated in 1874. It contains express directions, distinct for town and country. Those for the towns are appreciably more strict and have a tendency to become still more severe; with their support the municipal authorities in many towns have issued special injunctions and regulations touching trading in eatables, principally meat, milk, and the like; the control of this is supervised by common police inspection, or a specially appointed police of health. Moreover, in some towns the inspection of dwellings has been organized, with the object of seeing that they are used in accordance with the requirements of health, and of inspecting newly erected dwelling-houses. — In the very near future, all dealing in the necessaries of life is certain to be subjected to legal control.

In case of *epidemics* or infectious diseases, the Board can call upon the responsible official physician, according to a regulation called the Statute of Epidemics, which was promulgated in 1875, to visit the spot and prescribe proper measures; or the Board reports on the outbreak of an infectious disease to the Governor of the Län, who issues orders to the medical officers. In times of epidemics, the Board has a right to forbid large gatherings, such as at fairs and so on, and to inhibit, for long or short periods, attendance at school, etc.

Every doctor is bound to inform the responsible authorities of any cases of the following infectious diseases occurring in his practice, viz. cholera, smallpox, typhus, typhoid, scarlet fever, diphtheria, dysentry, leprosy, and infantile paralysis.

Every commune is bound to have a cottage hospital or some such place for isolating infectious cases. *Hospitals* or *cottage hospitals for epidemic diseases* have been built in most towns, and many are to be found in country districts. Every person suffering from any of the above-mentioned infectious diseases is bound, on the decision of the authorities, to submit to be treated at an epidemic hospital. If an epidemic case be treated in the patient's home, it devolves on the authorities to take measures for disinfection, to prevent the spread of the disease. At hospitals which have disinfecting ovens all measures of disinfection deemed necessary are taken.

There are *water-works* with good water in all the larger towns and also in a great number of the smaller ones. The water-supply is taken from lakes, rivers, or wells. In the larger towns, there is a thorough *system of drainage.* Both in the towns and in the country, general cleanliness prevails, the maintenance of which is subjected to proper inspection.

To prevent the introduction of *infectious diseases* from abroad, such as plague or cholera, certain rules are laid down. A vessel or its cargo from ports abroad stricken with plague or cholera is disinfected at certain quarantine stations: two such are to be found situated in the remote regions of the archipelagoes, viz. Fejan on the east and Känsö on the west coast. During a time of plague or cholera, when the introduction of these diseases threatens, the Board of Trade issues notice of it, and these quarantine stations, and ten other *places for observing suspicious cases,* scattered over the archipelago on the east, south and west coasts of the kingdom, become active. Persons coming from districts where the cholera has broken out are subjected to *inspection* for some days following the time of landing, and no ship must be brought to a Swedish port from plague-stricken places, before it has been inspected by the medical officer at one of above-mentioned stations.

Every child is required by law to be **vaccinated** before attaining the age of two years. No one is admitted to any public school unless he has been vaccinated or has had the small-pox. Not only doctors, but also parishclerks, midwives, and certain other persons of both sexes, provided with certificates of requisite knowledge in the art of inoculation, are allowed to vaccinate. Re-vaccination is not obligatory, except in the case of recruits for the regular army. There are a large number of vaccinators, one or more in every commune. Vaccination is supervised by the Board of Health, medical officers, the clergy, etc. In order to provide a supply of good *vaccine,* there are, besides the chief depot at Stockholm, 12 vaccine depots in different parts of the country — under the superintendence of medical officers. There is a penalty attached to neglecting vaccination. Zealous vaccinators are encouraged by pecuniary rewards, gifts of vaccination instruments and medals. The practice of vaccination has attained such development and stability in Sweden as to serve as a model to other countries. Sweden is universally acknowledged to be "the best vaccinated country in the world". The abundant material supplied on this subject by the Swedish demographic statistics — of the result of which the diagram on page 274 gives an idea — has also proved of great importance for scientific discussion on the value of vaccination.

Sweden is abundantly endowed with **watering-** and **bathing places.** The time since when the country has had health resorts may be dated from 1678, when the noted physician Urban Hjärne discovered the chalybeate spring at Medevi. On account of the geological formation of the land, no specially large number of such mineral springs are to be met with as are found, for instance, on the continent; and there are no warm springs or carbonic mineral waters. Swedish mineral springs are *chalybeate,* and of these a large supply is found, more or less charged with iron. The springs at Torpa and Sofia form exceptions to this general rule. The latter, which was bored out of a tertiary layer at Hälsingborg, contains, like the former, common salt and other compounds of chlorine, iodine, bromine, etc., and resembles the renowned spring at Kreuznach in Ger-

many. In the neighbourhood of Ramlösa there is an alkaline spring, the only one of its kind in the country. The strongest chalybeate spring is at Ronneby, and it contains sulphate of iron, alum, etc., the rest have carbonate of iron, e. g., Porla, Lundsbrunn, Lannaskeda, Medevi, Ramlösa, Sätra, etc. Most of these are more or less strongly charged with *radium*. — Sweden has a great number of *establishments for water cures*. The oldest is Söderköping, founded by Lagberg in 1842, others are at Bie and Södertälje, and there are in addition the more recent Mösseberg (1867), Hjo (1878), Ulricehamn, and Saltsjöbaden (1903). Smaller places are Nybro, Djursätra, Sätra, etc. "Kneipp institutions" are found at Borg, Tranås and Ryd. — There are a large number of *seaside sanatoria:* on the west-coast, Strömstad, the oldest salt-water bathing resort, Marstrand, Lysekil, Varberg, etc. Situated on the Baltic are Borgholm, Visby, Nynäs, Norrtälje, etc. — A speciality which does not occur in other countries, is *the Swedish mud-bath*, of which the oldest and original type is at Loka, where this style of bath was used as early as about 1760. This method of treatment has extended since, in more or less modified forms, to most of the Swedish sanatoria. It is something quite different from the German "Moorbath" in which warm mud is employed in differing degrees of heat and consistency. In Sweden, the bather is "massaged" with mud in various manners. No subsequent warm bath is taken at Loka, but only treatment by douche; in other places the treatment with mud is followed by a warm bath and a douche afterwards. At all Swedish sanatoria courses of gymnastics and massage are given.

The annual number of visitors for cures in Sweden is relatively large, but as is seen, varies with the economic condition of the country. In recent years, they may be computed at 35 000 at least, classified according to the scales of charges. Few lands exist where less well-to-do people receive treatment of this kind to such an extent as in Sweden. At many health resorts there are "bath hospitals" where treatment is given at reduced charges or gratis. Free patients in 1912 numbered nearly 2 000. Hospitals of this class are found at Medevi, Bie, Ramlösa, Ronneby, Mösseberg, etc. Complaints commonly treated are all kinds of "rheumatism", general weakness, anaemia, chlorosis; diseases of the nerves, stomach, ntestines, heart, and kidneys; and those affecting the joints and bones.

The combating of **Tuberculosis** has of late years become one of the burning questions of the day over the whole civilized world, and has also attracted the greatest attention in Sweden. The first powerful impulse to a real solution of the question was offered by the Soc. of Swedish Physicians, in the spring of 1896, after a thorough debate on all aspects of the question, the special outcome of which was the insight into the importance of providing opportunities for treatment in sanatoria of patients of small means, too. Consequently, as early as 1897, King Oscar II, at his silver Jubilee, devoted 2 200 000 kronor, the whole of the gift offered by the nation ("the Jubilee Fund"), to the establishment of sanatoria for the indigent or less well-to-do patients. In 1898, the Riksdag voted 850 000 kronor for the same purpose. From these collective resources three rather large institutions were founded: Hålahult in Närke, which was opened on July 13, 1900, Österåsen in Ångermanland, and Hässleby in Småland, opened in 1901. The yearly expences of maintenance of these Sanatoria is covered partly by patients' contributions (about 200 000 kronor), and a disbursement from the Jubilee Fund (about 80 000), and partly, since

TABLE 53. *Returns of Sanatoria, Hospitals, and Homes for Consumptive patients.*

Year	Number		Average attended daily	No. on Dec. 31	
	Received	Days of maintenance		Sickbeds	Institutions
1900	168	13 368	37	104	1
1901	544	50 429	138	320	3
1902	839	112 092	307	320	3
1903	1 323	174 168	477	514	7
1904	1 294	187 284	513	548	8
1905	1 412	203 361	557	607	11
1906	1 877	244 609	670	812	15
1907	2 450	331 684	909	1 064	19
1908	2 475	354 384	971	1 075	20
1909	2 924	405 794	1 112	1 222	24
1910	3 929	490 675	1 344	2 198	35
1911	5 409	747 741	2 049	2 634	47
1912	6 523	913 579	2 496	2 816	56

1904, by an annual State grant of 200 000 kronor. An even larger sanatorium for the people has lately been founded under the same management as those under the Jubilee Fund, at Spenshult in Halland, which was opened for patients in 1913. Spenshult was erected with money voted by the Riksdag in 1909, and it is intended primarily for certain civil servants. The Riksdag later voted a grant, on certain conditions, towards defraying a portion of the cost of building and maintaining consumptive hospitals erected by county councils and communes. For the achieving of the great task presented by the problem of exterminating tuberculosis is required, however, not only the vigorous initiative of the State, but also the keenest interest of the whole people. Though much was lacking in that respect in the first years of this century, yet in the present year, 1914, conditions are entirely altered. This change should be ascribed to the Swed. National Anti-Tuberculosis Association, which was founded in 1904, and has directed its operations rather less towards actual treatment of the patients, than towards lectures of physicians, publications, the formation of local unions for figthing the disease, experiments in social hygiene in towns and country districts, bursaries for doctors and nurses and for students of the subject, etc., and so it has spread and augmented the nation's knowledge of the importance of the question. Nowadays, it is embraced with the deepest public interest, which finds expression in the considerable grants made, or about to be made, by the larger communes and the county councils for establishing institutions for the care of tuberculous patients; the zeal with which the work of "dispensaries" has been taken up witnesses to the same enthusiasm. These dispensaries have been established in several country towns, besides the capital, and a plan has been started to erect them on a larger scale in the rural districts of the northernmost län of the country, too. — Since 1907, another national union has been at work — the "May flower" —

which, by selling a little, artificial flower on the first of May every year, has collected the means of paying for the care of indigent tuberculous sufferers, or of fighting the disease in some other way. The idea is of Swedish origin, has been very productive, and has been adopted by many other countries.

These figures, taken from the yearly reports of the Royal Medical Board, are, nevertheless, in a large measure incomplete, especially for the earlier years, and do not include, for any year, patients received in tuberculosis wards of charitable institutions. The latter amount, according to the reports just mentioned, to 120 in the year 1901, with 31 928 days of maintenance, and to 328 in 1912, with 52 767 days of maintenance; the number of sick places were 120 and 179 respectively.

From more complete reports, the number of places for patients affected in the lungs, in the spring of 1914, amounted to 3 450 in 60 institutions altogether. There were 9 summer day-sanatoria, besides, with 272 places; one hospital, with 100 places for children under surgical treatment for tuberculosis, 3 seaside places, with room for 390 consumptive children, 50 offices for information and relief, and 3 children's homes, containing from 67 to 80 places for the isolation of healthy children taken from consumptive homes. The largest institution is the Söderby Hospital for patients from Stockholm. Private sanatoria also exist, viz. three large ones, Mörsil opened as early as 1891, Romanäs and Sävsjö, 1907, and several smaller ones (included above).

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3. LOCAL GOVERNMENT.

Local self-government in Sweden is exercised partly by the *Counties (Läns)* and partly by the *Communes (Kommuner)*. In both cases, especially with regard to the latter, there prevails that definite distinction between town and country which is such a characteristic feature of Swedish administration. Here we shall first treat the Communes.

In former times there were also local authorities for the *hundreds (häradena)* and the *villages (byarna)*. At the present day, only a few insignificant remnants of these exist for the hundreds, mainly in matters relating to roads (see the section dealing with country roads). As regards the Assessment Committees, respective districts generally comprise *several* communes the respective.

Self-Government of the Communes.

Ever since the introduction of Christianity into Sweden the self-government of the communes has been closely connected with that of the church-parishes in ecclesiastical matters; and even at the present day the areas of the communes are, as a rule, identical with those of the church-parishes, except that the larger towns are divided into several church-parishes.

By the statutes of 1862 now in force, however, ecclesiastical and civil matters are strictly separated in the local bodies too; and matters of each kind are treated by special bodies, both determinative and administrative. One peculiarity of Sweden is that, except in the larger towns, the management of the elementary schools is abandoned to the local ecclesiastical authority. — Here we have only to concern ourselves with the civil local authorities, for the ecclesiastical authorities are treated under the heading of "the Church".

Local self-government in Sweden is of immemorial antiquity. The freemen themselves, in the oldest times, managed the business of the village, the hundred, and the shire in the village meetings *(stämmor)* and in the hundred-moots and shire-moots *(ting)*. But when the various provinces were fused into a single kingdom, a large part of this popular self-government passed into the hands of State officials (Governors, Bailiffs and Constables) or of church rectors and noble "lords of the manor" in the country. The *Parish Meeting (sockenstämman)* as a determinative, and the *Select Vestry* or *Vestry Board (kyrkoråd)* as an executive, authority, however, have existed since the time of the Reformation, although it was not till 1817 that things were definitely regulated which had previously been done, for the most part, in accordance with ancient usage. In 1843 a *Parochial Board (sockennämnd)* was established for transacting matters not concerning Elementary Schools and the Church. On the petition of the 1856—58 Riksdag a committee worked out a scheme of county representation and detailed regulations for communal administration; and on 21 March 1862 there were issued the statutes that still regulate both the ecclesiastical and the civil local self-government. These were divided into four separate laws, of which the first deals with local self-government in the country, the second with local self-government in the towns, the third with the ecclesiastical parish, and the fourth with the county councils *(landstingen)*. For the local self-government of the City of Stockholm there were special ordinances of the 23 May 1862 and 20 November 1863. Laws of 26 May 1909 effected important changes in the matter of franchise, method of election, rating, the eligibility of women etc.

A. Every town and, as a rule, every country parish constitutes a **Commune** *(Kommun)*. In 1914 the total number of such communes amounted to 2 510, of which 100 were urban communes and 2 410 were rural ones: of the latter there is a small number, some of the so-called market-towns *(köping* = English *chipping)* which in certain matters occupy an intermediate position between town and country. The communes, on an average, comprise about 2 200 inhabitants (in the country about 1 700, in towns close upon 15 000), and the rural communes, on an average, comprise an area of 190 sq. km (in the six most northerly Läns about 1 000, in the rest only 75).

For the town-like places that have arisen in recent years in many country-districts, adjacent to factories, railway-stations etc., a special statute has been in force since 1899 which in certain cases bestows on these "urban districts" or municipal communities *(municipalsamhällen)* a municipal administration of their own, whilst in other respects they still belong to the rural commune in which they are situated. The total number of such places amounted to 164 in 1914.

TABLE 54. *Number of Votes for Communal Elections.*

	No. of votes	Landed property		Other real property		Capital or Work
		Assessed value	Estimated income at 6 %	Assessed value	Estimated income at 5 %	Income
		Kr.	Kr.	Kr.	Kr.	Kr.
Country and Town	1	100	6	500	25	500
	2	1 700	102	2 100	105	551
	3	3 400	204	4 100	205	651
	4	5 100	306	6 100	305	751
	5	6 700	402	8 100	405	851
	6	8 400	504	10 100	505	951
	7	10 100	606	12 100	605	1 051
	8	11 700	702	14 100	705	1 151
	9	13 400	804	16 100	805	1 200
	10	15 100	906	18 100	905	1 201
	11	16 700	1 002	20 100	1 005	1 301
Country	12	25 100	1 506	30 100	1 505	1 800
	13	33 400	2 004	40 100	2 005	2 001
	14	41 700	2 502	50 100	2 505	2 501
	15	50 100	3 006	60 100	3 005	3 001
	16	58 400	3 504	70 100	3 505	3 501
	17	66 700	4 002	80 100	4 005	4 001
	18	75 100	4 506	90 100	4 505	4 501
	19	83 400	5 004	100 100	5 005	5 001
	20	91 700	5 502	110 100	5 505	5 501
	21	100 100	6 006	120 100	6 005	6 001
	22	108 400	6 504	130 100	6 505	6 501
	23	116 700	7 002	140 100	7 005	7 001
	24	125 100	7 506	150 100	7 505	7 501
	25	133 400	8 004	160 100	8 005	8 001
	26	141 700	8 502	170 100	8 505	8 501
	27	150 100	9 006	180 100	9 005	9 001
	28	158 400	9 504	190 100	9 505	9 501
	29	166 700	10 002	200 100	10 005	10 001
	30	175 100	10 506	210 100	10 505	10 501
	31	183 400	11 004	220 100	11 005	11 001
	32	191 700	11 502	230 100	11 505	11 501
	33	200 100	12 006	240 100	12 005	12 001
	34	208 400	12 504	250 100	12 505	12 501
	35	216 700	13 002	260 100	13 005	13 001
Country	36	225 100	13 506	270 100	13 505	13 501
	37	233 400	14 004	280 100	14 005	14 001
	38	241 700	14 502	290 100	14 505	14 501
	39	250 100	15 006	300 100	15 005	15 001
	40	258 400	15 504	310 100	15 505	15 501
Town	12	18 400	1 104	22 100	1 105	1 401
	13	20 100	1 206	24 100	1 205	1 501
	14	21 700	1 302	26 100	1 305	1 601
	15	23 400	1 404	28 100	1 405	1 701
	16	25 100	1 506	30 100	1 505	
	17	26 700	1 602	32 100	1 605	
	18	28 400	1 704	34 100	1 705	1 800
	19	30 100	1 806	36 100	1 805	1 801
	20	31 700	1 902	38 100	1 905	1 901
	21	33 400	2 004	40 100	2 005	2 001
	22	41 700	2 502	50 100	2 505	2 501
	23	50 100	3 006	60 100	3 005	3 001
	24	58 400	3 504	70 100	3 505	3 501
	25	66 700	4 002	80 100	4 005	4 001
	26	75 100	4 506	90 100	4 505	4 501
	27	83 400	5 004	100 100	5 005	5 001
	28	91 700	5 502	110 100	5 505	5 501
	29	100 100	6 006	120 100	6 005	6 001
	30	108 400	6 504	130 100	6 505	6 501
	31	116 700	7 002	140 100	7 005	7 001
	32	125 100	7 506	150 100	7 505	7 501
	33	133 400	8 004	160 100	8 005	8 001
	34	141 700	8 502	170 100	8 505	8 501
	35	150 100	9 006	180 100	9 005	9 001
	36	158 400	9 504	190 100	9 505	9 501
	37	166 700	10 002	200 100	10 005	10 001
	38	175 100	10 506	210 100	10 505	10 501
	39	183 400	11 004	220 100	11 005	11 001
	40	191 700	11 502	230 100	11 505	11 501

Note. Landed property corresponds here to *agricultural* estate.

B. **The Suffrage** in the communes is rather widely extended, inasmuch as every one (both men and women) possesses it who owns real estate to the value of at least 100 kr. or who rents agricultural land or, finally, who pays direct tax to the State (the *bevillning;* cf. State Finances, p. 237). This last applies to everyone who possesses an income of at least 500 kr. (in certain communes, where the cost of living is higher, to everyone who possesses an annual income of 600 to 700 kr.).[1] Moreover, they are required not to be in arrears for unpaid communal rates. The suffrage is also enjoyed by bodies coporate, e. g. companies and communities.

[1] A krona (plur. kronor) = 1·10 shilling = 0·268 dollar.

The total number of persons entitled to vote in communes in 1910 was 923 391, being nearly 17 % of the entire population. About half of the adult male population has the communal suffrage. In 1885 there were about 44 000 and in 1900 over 59 000 women entitled to vote in the communes; and this number must have since then considerably increased. Stockholm alone in 1910 had 20 900 women voters, as compared with 61 793 male voters.

Swedish women will soon have possessed the communal franchise for two hundred years. When the law of 1734 expressly laid it down that a widow was not under guardianship, she thereby obtained the communal franchise. A married woman, too, as early as the eighteenth century had, in the absence of the husband, the right to exercise the vote attached to the common property in the case of the election of a parish-priest. When an unmarried woman ceased to be under guardianship in 1858, she thereby gained the communal franchise for her property and her income.

The communal franchise is exercised in accordance with *a scale of 40 grades,* calculated for each voter on the basis of the *total income* for which he is liable to pay communal rates. In the *rural communes,* one vote is assigned for each 100 kr. or part of 100 kr. for such income up to 1 000 kr., and for incomes above 1 000 kr., one vote for each 500 kr. or part of 500 kr. In *towns* one vote is assigned for each 100 kr. or part of 100 kr. for such incomes up to 2 000 kr., and one vote for every 500 kr., or part of 500 kr. for incomes above 2 000 kr. The maximum number of votes is 40, and in the country districts the maximum is one-tenth of the total number of votes.

As a rule the number of votes corresponds to the assessed value and income set forth in Table 54. A person who has income from different kinds of real property, or from both real property and capital or work, has as many votes as he is entitled to by the *combined* amount of his income.

C. The communal authorities are of two kinds — determinative and executive. With regard to the **determinative authorities** the peculiar circumstance holds that this capacity is exercised, as a rule, not by any representative body, but *immediately by the entire body of the voters themselves.* It thus happens that one may see determinative communal assemblies of several hundred persons, or even of thousands.

This ultra democratic system (a direct descendant of the old primitive Germanic Folk-meetings) prevails, with some few exceptions, throughout the rural communes. In the towns, on the other hand, it is only allowed in the smallest, i.e., those with a population of less than 3 000. Even these small towns, moreover, *may,* if they so wish, elect a representative body — which is done in almost all cases; and, as has been mentioned, this is obligatory in the case of the larger towns. — The deliberative and determinative General Assembly is called, in the country the **Communal Meeting** *(kommunalstämma),* in the towns the **Municipal Meeting** *(allmän rådstuga).*

The Communal Meeting elects its own president and vice-president for four years, but in the towns the mayor is *ipso facto* president. Ordinary assemblies

are held in the Communal Meetings three times a year, viz. in March, October and December. Extraordinary meetings are held for transacting special business. In the towns, the Municipal Meetings are held only twice a year, viz. in May and December.

The Communal and Municipal Meetings settle the general business of the commune, elect the executive authorities, and possess the right of levying communal taxes.

The Communal Rate is made in proportion to the assessed income of the ratepayer, income from agricultural property being calculated at 6 %, and income from other real property at 5 %, of the assessed value. The Communal-rate is thus fixed at a certain amount for each hundred kronor of income.

For the defrayal of certain expenditures rates are assessed not on all the ratepayers, but only on one or more of the four *groups* into which they are divided, *viz.* those who are rated for: *(a)* agricultural property "i mantal satt" (certain assessment standard of land); *(b)* any other agricultural property; *(c)* any other kind of real property; and *(d)* income from capital or work. — For cut timber there is a kind of *Forest Excise,* in the form of a communal tax at the maximum rate of 2 % of the assessed value. — An extra tax, expressly authorized by law, which can be imposed by the commune is the *Dog Tax,* which, however, may not exceed 15 kr. per dog per annum.

A bare majority is, as a rule, required for carrying a *resolution* at the Communal or Municipal Meetings. But if the resolution relates to the vending or purchase of real property, to the making of grants for new objects or of grants for which loans must be made, or to borrowing money or going security, there is required for the validity of the resolution a qualified majority of two-thirds of those taking part in the resolution, the votes being calculated according to their value. The resolution may be *appealed* against by any member of the commune, whether he has a vote or not, if he is of opinion that such a resolution infringes his private rights or is contrary to law. His plaint is brought before the Governor, from whom a further appeal can be made to the Supreme Administrative Court. In certain cases the express *sanction* of the Governor is required;

TABLE 55. *Revenue of the Communes, 1876—1911.*

Annually	Mean population	Amount of Revenue, in kronor				Per Head
		Rates	State-grants	Other	Total	kr
1876—80	4 500 000	23 558 000	2 716 000	16 484 000	**42 758 000**	9·50
1881—85	4 605 000	26 952 000	3 318 000	20 658 000	**50 928 000**	11 06
1886—90	4 742 000	29 356 000	4 114 000	25 321 000	**58 791 000**	12·40
1891—95	4 832 000	34 161 000	4 753 000	28 272 000	**67 186 000**	13·90
1896—00	5 032 000	39 375 000	5 655 000	37 698 000	**82 728 000**	16·44
1901—05	5 214 000	52 467 000	7 639 000	48 053 000	**108 139 000**	20·74
1906—10	5 406 000	75 883 000	11 050 000	68 735 000	**155 668 000**	28·80
1911 (31 Dec.) . .	5 562 000	89 291 000	13 365 000	82 737 000	**185 393 000**	33·33

in others, even that of the Government. The most important of the first-mentioned cases is the imposition of rates extending beyond a period of five years: apeal can always be made from the Governor of the Län to the Central Government. The direct approval of the Government is required, as a rule, for contracting a loan and also in certain other instances.

In towns, as has already been mentioned, the right of decision is exercised in municipal matters by a *representative body*. This is called **Town Council** *(Stadsfullmäktige)* and is elected by those inhabitants of the town, men and women, who possess the municipal franchise in accordance with the graduated suffrage scale (cf. Table 54) and on the *proportional system* (cf. page 206). The number of Councillors is determined by each town for itself, but within certain limits fixed by the population: the highest number allowed is 60, except in Stockholm, which has 100. Councillors are elected for four years, half the number being elected every other year. In divisions within the Town Council each member has one vote. In other matters the same rules hold good, where appropriate, as have been given above in connection with the Communal and Municipal Meetings.

In *Stockholm* the validity of all resolutions, with some few exceptions, is dependent on the High Governor's approval. In other matters, too, there are certain differences between the municipal administration of Stockholm and that of the towns; but these differences cannot be indicated here. — In the towns of Stockholm, Gothenburg, Malmö, Norrköping and Gävle, the Town Councils transact the business that elsewhere falls to the County Councils (see Self-Government of the Counties (Läns) below).

D. The **executive authorities** in the communes are quite different in the Country and in the Towns.

In the **country** every commune, as a rule, has only one single executive authority, viz. the *Communal Board (kommunalnämnden)*, which is composed of at least 3, at most 11, members, elected for four years, half the number being changed every other year. The members of the Communal Board do not receive any remuneration for their work. The incumbent of the parish is also entitled to attend Communal Board meetings. In some Communes there is elected a special *Board of Guardians* which thus becomes a second executive authority within the commune.

In **towns** the executive authorities of the Commune are, to a certain extent, mixed with those of the State. The municipal authority is confided to the *Magistracy*, which at the same time is a court of first instance, called the *Borough Court (rådhusrätt)*. The Magistracy consists of the *Mayor* and *Aldermen*, whose method of appointment has already been described in a preceeding section (page 216). In every town there is also elected a *Board of Finance (drätselkammare)* — elected by the communal determinative authority — which manages the property of the town.

TABLE 56. *Expenditure of*

Annual Expenditure for	1876—80 Kronor	1881—85 Kronor
Ecclesiastical purposes	9 029 000	9 644 000
Elementary schools	8 249 000	9 986 000
Poor relief	7 377 000	8 656 000
Public health	1 564 000	1 721 000
Technical and higher schools	604 000	644 000
Public buildings	10 301 000	13 693 000
Other purposes	8 439 000	10 481 000
Total	**45 563 000**	**54 825 000**

The towns, moreover, unlike the country districts, appoint a number of *special boards* for certain purposes, such as Poor Relief, Public Health, Building, Fire Service etc., all of which fall under the supervision of the Magistracy. For towns, there are also special *Police Regulations* issued for the maintenance of public safety, which it is the duty of the *Police authorities* to apply. — In this respect also *Stockholm* differs to some extent from the other towns, inasmuch as it has a greater number of special boards. In general it may be said that in Stockholm the administrative sphere of the Town Council is greater, while that of the Magistracy is smaller, than in other towns.

Since 1909 duly-qualified *women (viz.* entitled to vote) have enjoyed the same franchise as similarly-qualified *men* in all the communal business of both urban and rural communes. About 50 women have been made members of Town Councils; and in many places women are members of School Boards and Boards of Guardians.

E. Certain details with regard to the **finances** of the communes are given in Tables 55—57. These also include the sums administered by the ecclesiastical authorities of the parishes.

The rate-income of the communes, as appears from Table 55, amounted during the year 1876—80 to about 23½ million kronor a year, and during the year 1911 to 89 million kronor.

Among the real property assets for 1911 included in Table 57 the elementary school buildings are calculated at 114·0 million kronor, poor relief institutions at 39·3 million kronor, borough court buildings, town halls and parish halls at 23·5 millions, hospitals in the towns at 23·5 millions, secondary school buildings in the towns at 23·9 millions, gas-works and electricity-works at 53·3 millions, and water-works at 52·5 millions etc. Amongst the assets included in Table 57 are *not* comprised real property and funds that are under the administration but not at the disposal of the communes: under this heading fall churches, with a value of 135·9 million kronor, ecclesiastical residences etc. with a value of 72·6 millions, and endowments amounting to 87·2 millions — or 295·7 million kronor altogether. If these values be added to the assets which stand entirely at the disposal of the communes (874·8 million kronor in Table 57), the gross total will be 1 170·5 million kronor.

The great **forest funds** which certain communes in Dalarne and Norrland (or more properly speaking the landowners within these communs) have acquired

the Communes.

1886—90 Kronor	1891—95 Kronor	1896—1900 Kronor	1901—05 Kronor	1906—10 Kronor	1911 Kronor
10 014 000	10 634 000	10 934 000	13 369 000	15 484 000	15 954 000
11 831 000	14 049 000	18 235 000	24 304 000	36 088 000	40 826 000
9 535 000	11 613 000	13 367 000	17 043 000	22 012 000	24 551 000
2 352 000	2 907 000	3 887 000	5 400 000	6 749 000	9 410 000
832 000	867 000	998 000	1 559 000	3 338 000	4 013 000
14 386 000	17 562 000	26 945 000	31 088 000	62 288 000	59 402 000
12 024 000	13 869 000	16 308 000	22 772 000	34 492 000	42 569 000
60 974 000	**71 501 000**	**90 674 000**	**115 535 000**	**180 451 000**	**196 725 000**

in recent years by the disposal of the communal forests, are not included in the communal assets. These funds are sometimes very considerable (in the communes of Orsa and Älvdalen, 10 and 5 millions of kronor respectively); and, moreover, they will in future rise in value, inasmuch as the ownership of the woods has not been sold, but only the right of working them for a certain number of years. In such communes rates of all sorts, even those of non-landowning members of the communes, are met out of these funds; and all the public institutions of modern times (schools, roads, bridges, railways, telephones, modern lighting etc.) are provided and equipped in a rather costly style — a most singular sight in parts which not long ago were considered among the most out-of-the-way and insignificant in all Sweden.

Regarding the *liabilities* of the Swedish communes, see Table 57.

TABLE 57. *Finances of the Communes, 1911* (in thousands of kronor).

	Revenue	Expenditure	Assets			Liabilities
			Real property[1]	Others	Total	
Country	59 712	60 996	118 099	43 088	**161 187**	69 489
Towns[2]	125 681	135 729	582 698	130 954	**713 652**	540 192
Town and Country	**185 393**	**196 725**	**700 797**	**174 042**	**874 889**	**609 681**

[1] Including movables. — [2] Including certain "Köpingar" (market-towns).

Poor Relief.

In former days the care of the poor in Sweden rested principally on the shoulders of their relations, if among them were to be found any possessing land, which was in those days practically the only form of wealth. The landowners could use poor relations as workers on the land, but they had also to provide for their other bondfolk, who were either born serfs or had given themselves into serfdom for life, because they had no other refuge. By the introduction and the influence of Christianity, the number of the serfs was gradually diminished, and finally both forms of serfdom were abolished. "Many wandered about without a lord" after that date and supported themselves by begging.

During the Middle Ages the Church undertook the chief care of the poor, fed wayfarers, and built hospices and hospitals by churches and monasteries for the sick and decrepit; resources for this purpose were obtained in part through tithes from farmers, and in part through gifts and bequests bestowed by pious people on the Church. At the same time, several provincial laws did nevertheless impress the duty of the family to provide for poor relations, and the Church set apart a portion of the poor-man's-tithe for the direct use of the farmer himself, on behalf of the needy, whether kindred or wayfarers.

At the Reformation the State confiscated both the tithes and the foundations belonging to the Church. Many of the foundations were, however, converted into lawful refuges for the sick and infirm.

For those who were incapable of work, but yet were able to walk about, begging was legal, but it developed to an immense extent under mediaeval conditions, the gift of alms conferring on the donor spiritual advantages. The beggar had to have a certificate, provided by church authority for a defined area, and a struggle was entered upon to repress unauthorized begging. The struggle was, however, in vain, in spite of repeated and increasingly severe decrees for the punishment of beggars. Efforts made from time to time to create a poor-law were called "Beggars Ordinances".

Both by Gustavus Vasa and Gustavus II Adolphus attempts were made to regulate the work for the poor. During the reign of the latter, a complete system was worked out and was at length adopted by the Estates, but the law was never advanced beyond the paper stage.

In this bill a new idea emerged with reference to the aid given to the destitute; such support was to be regarded not only as a provision made in pity, which had been the case up till then, but a civil duty, of which the proper performance could not be neglected without injury to the whole community.

The bestowal of alms having ceased to be of importance to the donor himself, and the Church no longer administering large gifts, support for the distressed gradually declined, so that it finally became necessary to make obligatory those contributions to the poor which had formerly been declared to be voluntary and free. The first step taken in this direction was the "Beggars Ordinance" of 1698. It was established, in the "Hospitals Ordinance" of 1763, that every parish should provide for its poor, and the necessary means should be found by the inhabitants in *proportion to other rates and taxes*. In the manner of giving support to the needy, a divergence had thus sprung up: aid could be given either by the public authorities after a regulation founded on the rating basis (A) and limited to members of the particular community, or by voluntary benevolence (B), prompted and supported by kindness and pity alone ("charity"), and therefore unrestricted by any regulations. To-day, when the difference between them is strongly emphasized, these two provinces in the work of relief ought, in their main outlines, to be able to be kept distinct and separate

from each other and only in a very few cases encroach on each other, but such has not been the case. It is all the more proper that endeavours should be made to prevent persons in need of help from being cared for both by "poor law" and by "charity" simultaneously.

A. Public Poor Relief. The sole responsibility of each community to meet the expenses of poor relief which must be granted to its members was thus fixed. Definite instructions with regard to the giving of assistance, applicable to the whole country, were however lacking, and the settling as to what parish was liable in every particular case produced sharp contentions.

The founders of the constitution of 1809 did draw attention to the neccessity of investigating all conditions pertaining to poor relief and of promulgating regulations for the whole kingdom based on that investigation.

However, the first general poor law for Sweden did not appear before 1847. Certain principles were then established for the giving of poor relief, but the various communities were left free to regulate the details according to local conditions; yet *begging had to be prevented.* Up to then it had been regularly permitted, though under strict control, as being the right way for the destitute to obtain the neccessities of life.

The poor relief ordinance now in force, issued June 9th 1871, are mainly founded on those of 1847, with partial alterations and additions made before 1871 and since. They ordain that every able-bodied man shall, without burdening the poor law union, provide for himself and his children under age, i. e. under 15 years; the same shall apply to the support of his wife, it being understood that parents and children are bound to support each other, in proportion as the one part needs it and the other can bestow it.

Servants and other working dependents, together with their wives and children under age who are at home, shall be supported by their master so long as the contract for work runs.

Necessary relief *shall* be provided for minors, and for those who are, by reason of age, sickness, disablement, or other defect, incapable of supporting themselves and lack means of maintenance or other relief (poor law § 1). In other cases, support *may* be given after investigation by the Board of Guardians (poor law § 2).

Every town and parish in the country forms a *community for poor relief.* Application for support shall be made in the parish where the necessitous person is living, but the cost of the support enjoined by law shall be met by the parish where he has his settlement.[1]

A parish in the country may, under certain conditions, be divided into *districts* which are responsible each for its own poor relief; the arrangement is quite infrequent. Larger land owners, if they are deemed fully solvent, may be personally responsible for their tenants (*"Private Unions for Poor Relief"*), and are exempt, in that case, from half the poor rates payable to the parish.

Poor relief in the country is administered by the vestry, if no separate poor law board, *Board of Guardians,* has been constituted. Such a board must always

[1] *Settlement* is to be taken as meaning legal residence or establishment in a particular parish.

exist in each town. The country board, if such has been appointed, shall consist of at least three persons, and that in a town of at least five, of either sex; the rector is *ipso facto* a member of the board.

In Stockholm there is a local board in each district and a central governing body for the whole city — "fattigvårdsnämnden" —; the latter consists of 12 members and 8 deputies, elected by the town council for two years at a time; the local boards are elected by the central authority. Men and women alike are eligible. A poor law inspector is appointed on the central board to control the proper management of poor relief and its healthy development.

The Poor Law Guardians are bound, on receipt of application for relief, to inquire carefully into the applicant's position and needs, and into how far such relief should be afforded; to see that necessitous children not only receive maintenance, but also a fixed abode and Christian education; to take note that support given is properly applied, and, with that object, to divide the community into districts, each under the inspection of a special Guardian: and to superintend special districts and private Unions for poor relief, where they exist.

Poor Law Guardians have *the right of guardians and masters* over those who are entirely dependent on them for maintenance, and all that they possess reverts to the community. The Poor Law Guardians have *the right of masters* over a) everyone who is in receipt of other relief than full maintenance; b) everyone whose wife, or children under age, are entirely dependent on Poor Law for maintenance; c) those who, through idleness, bring their wives or children to such poverty that they need assistance, even if it be only temporary.

If those falling under the authority of the guardians are capable of work, but refuse to perform the tasks assigned to them, or otherwise conduct themselves contumaciously or licentiously, they are to be warned, and if the warning is unheeded, they are to be brought before the Governor, who may condemn them to compulsory work. In the case of those under age, the Board can order them a thrashing.

The community has the right to be *compensated* for relief given, for cost of sending home or cost of burial, out of such property as the recipient possesses or may come to possess, and out of the earnings from work performed while under the authority of the guardians. If the recipient of relief has a kinsman legal answerable for his maintenance, the latter shall pay this. If this be not done voluntarily, then the matter is to be brought before the Governor, who settles the dispute.

The *State* compensates for poor relief of those whose settlement cannot be discovered, or who are not Swedish citizens, or for the year before receiving relief belonged to the ranks of the enlisted troops. State grants can also be apportioned to a community for the support of those who have lived without intermission five years outside the community, provided that the latter has heavy expenses for poor relief, or that the necessitous person has lived the whole time outside the country.

Swedish citizens have a *settlement* in that commune where they have last been or should legally have been registered as resident, and this again is where he is considered to have his home and dwelling-place. After the age of 60, a person retains ever afterwards the settlement he had when reaching that age. A wife has the same settlement as her husband. A widow or a divorced woman retains her last settlement during her married life, until she obtains another. Legitimate children under age have their father's settlement, but, in the case of his death, their mother's. Illegitimate children under age have their mother's. If a person who migrates to a community has, for himself, his wife, or children, the year previous or subsequent, been in receipt of poor-

relief from the place he removed from, or stands in need of such relief during the first calendar year after such migration, he is regarded as having his settlement in the place from which he has migrated. No one can be refused the right of changing his abode on the ground that he may possibly come to need parish relief.

Complaints against the refusal of relief may be preferred before the representatives of the community, but appeals against their decisions, respecting relief applied for but refused, can only be made on the score of informality. Appeals touching other questions must come before the Governor of the Län, whose decision may, in certain cases, be referred to the Audit Court (Kammarrätten).

Poor-House in the Country (*Nacka*).

Everyone who solicits alms by word or gesture, from any other than the person appointed by the community to receive application for poor relief, is considered to have been *begging*. Within every poor law parish, there shall exist a competent number of overseers, whose duty it is to stop beggars and institute an examination of them. If the detained man is in a necessitous condition, he receives relief; otherwise he is warned and may in more serious cases be sentenced to compulsory labour. The same consequences threaten any who permits a child under age to beg, whether it is his own or under his guardianship.

The poor law also prescribes that the community must concern itself with providing an institution for giving work to those who are under the domestic authority of the board of guardians; and their operations must tend to *obviate* the need of poor relief in the future as much as possible, by the establishment of savings-banks and relief funds, or by other effective methods.

Gradually, however, the latter instruction fell entirely into oblivion in the majority of the communities, and the general interest in poor relief, which had been awakened by the expectation of fresh legislation, had consequently relaxed, and so in the sixties, seventies and eighties it depended completely upon the responsible managing director in the board of guardians, his interest and competence, that the care of the poor was in a satisfactory state. Apparently the general public almost forgot that a parish poor law existed, although the heavy rates might well have reminded them of the fact. At

any rate, by voluntary workers no account was taken regarding the steps taken by the poor law. In the nineties an awakening took place, and the organization of poor relief became a point of interest in the towns, and it has increased in strength until our ow days and is now a burning question over the whole country.

Various systems in respect of the *method* of poor law administration prevail in different communities: the system with only officials, the Elberfeld-system with helpers or almoners, and a combination of the two. According to the official system, salaried persons perform the whole work: they receive applicants, investigate conditions, and report to the board, who decide the question. The Elberfeld or almoner system is the name given to the poor law administration based upon help by volunteers or honorary officers; each almoner has only a few recipients of relief to look after, and a very thorough individualization, and consequently suitable treatment, is rendered possible. Such an organization has been in operation in Elberfeld since 1852, but long before that (1819) a Scotsman, named Chalmers, organized something like it in Glasgow; it was there proved that, by careful individualization, in four years the cost was reduced to a fifth of what it had been before, and at the same time the really necessitous obtained better care and help than had previously been the case. The same experience was gained at Elberfeld: in 30 years, during which time the inhabitants doubled in number, those in receipt of relief decreased by nearly a third, and the care of the poor was on an improved footing at an appreciably less cost. This system has also been adopted in many different places, and in various towns of Sweden; yet it imposes very great claims on leading people — on the guardians, as well as on the almoners — and if these claims are not fully met, the whole organization may well come to lack that stability and uniformity which is desirable. Therefore in many parts of Germany, as well as in Sweden, the adoption of a "combined system" has been attempted, in which the best points in both the other methods are utilized, and the salaried officials co-operate with and complete the work of volunteers.

These various methods have importance only for the so-called *outdoor* relief of the poor, that is to say, where the relief given, either in money or in kind, is taken to the applicant's home; it is suitable that such assistance should be accompanied by supervision. *Indoor* relief is afforded in institutions or homes to various classes of the poor. In larger towns are to be found work-houses and infirmaries for the destitute — with departments for chronic cases of sickness, either physical or mental — homes for the aged and for children, asylums for the homeless and for women in confinement and for nursing mothers, night refuges etc. Pauper children are likewise *boarded out* in simple but good private homes; this is in rural parts the usual means of provision with respect to pauper children, and is also resorted to for elder people. In those parishes where no parochial institutions are to be found, or such as do exist are inadequate, outdoor relief is frequently given. In 1912, over the whole kingdom, outdoor relief was given to 60·8 % of all in receipt of relief. The danger of abuse in this system is, nevertheless, great, and at the same time aversion to seeking this form of relief is so slight as to create a temptation to apply for help without necessity. *A* well managed *poor law farm*, with work on the land, has proved to be remunerative for parish and inmates alike; the weakly ones obtain needful care, while those who have more or less working capacity there get farm-work after their ability, and are strictly kept to its performance.

The number of poor law farms is annually increasing and in 1912 amounted altogether to 504. *Institutions for the care of the poor* numbered in all 4 203, farms included: the rest were 34 work-houses, 1 414 poor-houses, 29 homes for

TABLE 58. *Relief of the Poor.*

Annually	Mean population	Persons enjoying parochial relief			Per 1 000 inh.	Expenditure Kronor	
		Direct	Indirect	Total		In all	Per inh.
1876—80 . .	4 500 000	150 894	52 726	203 620	45·2	7 377 000	1·64
1881—85 . .	4 605 000	162 418	61 280	223 698	48·6	8 656 000	1·88
1886—90 . .	4 742 000	172 233	64 706	236 939	50·0	9 535 000	2·01
1891—95 . .	4 832 000	181 813	71 847	253 660	52·5	11 613 000	2·40
1896—00 . .	5 032 000	176 906	65 607	242 513	48·2	13 367 000	2·66
1901—05 . .	5 214 000	174 998	59 899	234 897	45·1	17 043 000	3·27
1906—10 . .	5 406 000	176 707	57 291	233 998	43·3	22 234 000	4·11
1910	5 499 000	178 934	57 984	236 918	43·1	24 267 000	4·41
1911	5 542 000	180 485	58 379	238 864	43·1	24 551 000	4·43
1912	5 583 000	183 650	60 365	244 015	43·7	26 856 000	4·81

children and educational establishments, and 2 222 smaller cottages for the poor, which were assigned as dwellings for a number of paupers.

Poor Law Unions were 2 506 in number the same year: of these 2 377 belonged to country districts, and 129 consisted of cities and boroughs. The population amounted to 5 604 192, of which 4 141 768 were rural, and 1 462 424 belonged to towns and boroughs. The total of those in receipt of relief was 244 015, of which 146 361 belonged to country parishes and 97 654 to towns and urban districts. Recipients of relief amounted relatively to the mean population to 3·52 % in the country, 6·86 in towns, and 4·37 on the average for the whole kingdom.

The number of persons in *receipt of relief* grouped under periods of five years since 1876, is shown as an average in table 58, which also sets out the cost of poor relief during the same time.

Statistics dealing with this subject in Sweden go back to the year 1805; they have existed in their present more developed form since 1874.

The poor law ordinances now in force do not, in many respects, satisfy the demands of a rational system. In the course of years the Riksdag has, on various occasions, voted for an alteration of a paragraph here and there; but in 1907 a revision of the whole law was petitioned for, and, as a result of this, a Royal Committee was appointed; the commission is still at work, but its report may be expected in the near future.

B. Private Benevolence. During the centuries which elapsed after the reformation, before a definite poor law for the whole country was set up, a number of institutions were developed, which may be indicated as transitional forms between public and private enterprise. In the 16th and 17th centuries, the State, or the reigning sovereign and his family, without the co-operation of the parishes, erected homes for the aged and the sick and for the care and education of children, and these establishments were maintained by the founder and private benefactors together. Among such places there are still in operation a great number (cf. a couple of oppended illustrations: Home for the Aged, Enskede, and Danviken Home, near Stockholm).

By various donators a number of different funds were also founded, and from them help is still given to a great many people, often in the form of pensions. Many of the gratuities are small, and owing to the decreased value of money and the increased pretensions of our own day are mere doles, not seldom hampered by wonderfully minute regulations as to their distribution, but many of them are, even when compared with present conditions, of considerable help to the recipients.

Photo. O. Ellqvist, Stockholm.

Home for the Aged, Enskede.

During the first half of the 19th century, very few institutions of the aforementioned character were founded. On the other hand, associations for the purpose of giving assistance in one way or another are beginning to appear. On the whole, it seems that, during this period, things waited passively on the result of the expected legislation for poor relief. When that at last took a definite shape, it was clear to the public that private operations were very desirable in combination with those established by law.

In the latter half of the same century, active organization of every kind of institution prevailed, and associations were formed to assist those who, in various ways, were in need. At last, in the last decades of the century, it became a clearly necessary task to systematise the confusion of activities and to establish co-operation among them, and between them and the poor law. At the same time, it became clear that the prevention of distress was more urgent than the attempt to mitigate it, and that to prevent distress was the only way to be able at some future time to get rid of it altogether.

Institutions for helping the aged and infirm were, as before, considered the most indispensable: *Homes for respectable poor* and for *aged servants* were started in several places, as well as larger or smaller *Hospitals for incurables.* To alleviate suffering in cases of *sickness* and during *convalescence*, homes were

set up, intended to give the sufferer temporary refuge; associations for *nursing the sick in their own homes* have done incalculable good, by securing trained nursing and suitable diet for invalids, who, for various reasons, could not or ought not to be admitted into hospitals.

Homes of different kinds have also been organized for the misguided, fallen, and unfortunate in mind or body. Attempts have been made to supply work to the unemployed; cheap dwellings have been provided for people with very little ability to pay rent, and the homeless have obtained temporary refuge in night-lodgings and shelters.

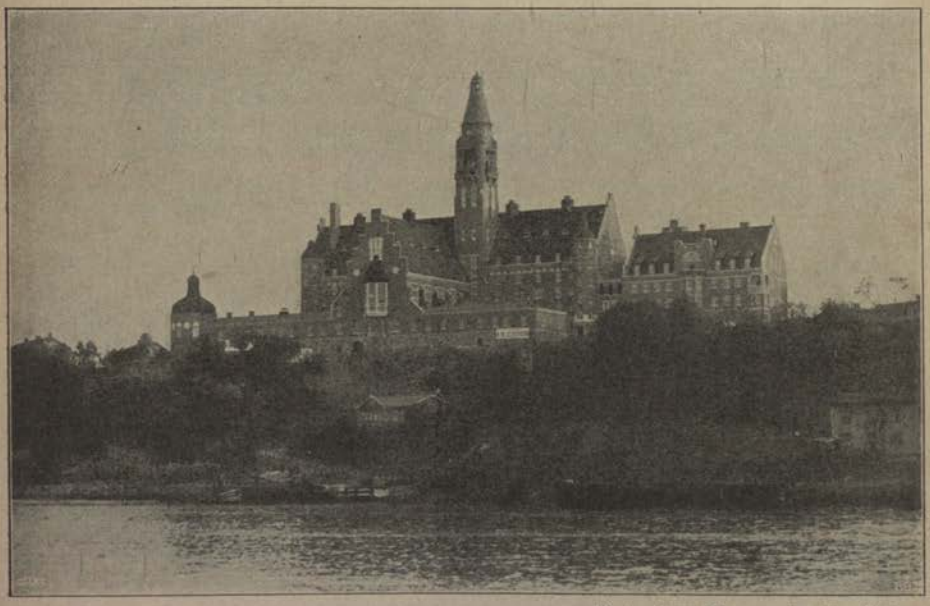

Photo. AXEL MALMSTRÖM, Stockholm.

Danviken Home, near Stockholm.

Above all, arrangements have been made for *children*, who stand in need of care, whether they are of tender age or approaching years of discretion. *Infants' homes*, where mother and child are admitted together for the nursing period, *Homes for very young children*, *Milk dispensaries*, *Crèches*, *Infirmaries*, *Holiday and Convalescent homes*, "*children's shelters*", and other establishments grew up, and *Societies for clothing* and *feeding* tried to help such children as did not need to be taken entire charge of. For such purposes, *Children's homes* were started all over the country. It has been more and more realized that children, when they grow up and become more capable of thinking, ought to be assisted in such a way as to stimulate their activity and their capacity for and delight in work; with this object: *Workshops for children* (Arbetsstugor), or workrooms for children, are scattered over the whole country. The same office is performed by *schools for housewifery and domestic work* and so-called "*home training schools*" in country districts.

Besides such arrangements for particular cases needing assistance, great activity has been developed in encouraging, advising, and generally sustaining those who are oppressed by the burden of poverty. This has been done by *Societies for relieving distress*, working in different parts of the country and under various names. Members of these societies, belonging to the more prosperous classes,

have undertaken to approach their less fortunate fellows in an intelligent and friendly spirit, and to assist them by counsel and practical help.

One class by itself is made up of those associations which have for their purpose something especially spiritual, such as missionary societies of different sorts. Some of these, moreover, have a system of training missionary workers, among the necessitous e. g., the *Institute of Deaconesses*, the *Salvation Army* and others. In the performance of their work, they have found that spiritual assistance must be combined with care for the bodily wants of those they desire to reach, for their preaching cannot win hearers among those they allow to be homeless, starving, and cold; and this fact has called into existence a number of institutions besides those necessary for training purposes.

All this work for the necessitous, when done without one helper knowing anything of another's doings, tempted the less conscientious of the poor to abuse good-will, and in the large towns it often happened that the same person obtained assistance from public sources and from several private associations at the same time. An unconscious extravagance in the disposal of means, to the detriment of those really in want, was in this way occasioned, and, to make things worse, no one in distress could under those conditions be permanently benefited, one helper unconsciously pulling down what another was building up.

Following an example set in London, the *Charity Organization Society* (Föreningen för Välgörenhetens Ordnande, commonly called F. V. O.), was founded in Stockholm in 1889. Its mission is to secure in the capital collaboration, irrespective of differences of religious or political opinions, between benevolent private persons, institutions, or associations, and the poor law boards; and, consequently, while striving to check mendicity, it strives so to concentrate and regulate all available strength as to permanently improve, with a united and systematic action, the condition of those who are in need of help. All who feel interested in and who are willing to take part in such work have a meeting-place at the central office of the Society, where persons in need of help also apply. The members of the Society, moreover, send thither all applicants for relief unknown to them, so that information may be obtained about them, and the best mode of aid may be adopted.

The central office is assisted by persons of both sexes, who visit the homes of the applicants, inquire into their circumstances, and write reports on each. This contains all the particulars that can be furnished, and hence it is possible to get an idea of what can and ought to be done.

In a dossier is noted down all the information from available sources about the applicant, and all measures taken from time to time, and what friendly observation has found out, so that a definite report and clear guidance can be given to each person who has got an application from some one already registered, and who is willing to help, but asks for advice how to do so. The dossiers are registered, so as to be easily obtainable if they are wanted. A *register* is kept of all benevolent institutions, funds, and associations, and records of the various conditions under which they give relief, so that the office can give advice and direction in case of need. A similar *register* is kept of those *assisted* by the different associations, funds, and by the poor law guardians, so that authorities may obtain information and no overlapping of assistance need occur.

F. V. O. tries, by circulars, meetings, and lectures, to repress mendicity and give charity in Stockholm a healthy direction; at the same time endeavours are incessantly going on to elevate the self-respect of the poor and to encourage them in self-help, e. g., by urging them to join a friendly society to provide

against sickness, (Sickness Benefit Societies) — if necessary, admission is facilitated — and by enjoining thrift. To facilitate saving, post-office savings stamps are offered for sale in homes, factories, and shops in poor neighbourhoods by the so-called *circulating savings-bank*.

Associations with a similar purpose as F. V. O., though under different names, have been started in several Swedish towns and have — like the one in Stockholm — been of great value, not least of all by checking begging, which, if allowed to flourish unhindered, communicates its infection from one to another and produces greater and greater degradation.

The capital, of which the interest is applied to carry on private benevolent work, *amounted in Stockholm* alone to 100 million kronor in 1912, including the maintenance of homes, institutions of various sorts, and different funds. Added to this are the annual subscriptions of members of associations, and all the support which is directly given to applicants by private people, which is omitted from all calculation. Nevertheless, the means available for helping purposes in Stockholm in the year mentioned amounted — parish relief included — to more than ten millions.

Thus, there is a powerful economic leverage for the attempts at bettering the conditions of the poor, if only correctly applied, not for maintaining them *in* poverty, but for raising them *out* of it. In order to attain this object, other requisites, however, than money are needed: united co-operation, and persons with knowledge not only of the laws of national economy, but of education, willing to work for the welfare of the nation.

With the purpose of paving the way for such a conception of the problem of poverty, and to train experts in the work, both among the *poor* and among *children*, the *Swedish Poor Law Reform Association* (Svenska Fattigvårdsförbundet) was formed in 1906. It is a federation of a large number of poor law boards, benevolent associations and private persons. By means of training-courses, and finding of situations within its scope, by the establishment of bureaus for the care of children, by sending over the whole country advisers of experience in these matters, by offices to give advice and information, by the publication of a magazine, books and pamphlets, treating kindred matters from various points of view, by meetings, lectures and discussion of important questions, and by the occasional organization of congresses, the Association does its best to make the public understand what is the object to be aimed at in the work for the poor.

Self-Government of the Counties (Läns).

The representative assemblies of the Counties *(Län)* are called *County Councils (Landsting)*. A Län may be divided by the Government into several County Council Districts; but this has only been done with regard to Kalmar Län, which has two such Councils.

Towns which possess more than a hundred-and-fiftieth of the total population of Sweden are not represented in the County Councils, but the usual functions of the County Councils are there performed by the Town Councils. These towns are Stockholm, Gothenburg, Malmö, Norrköping and also Gävle — the last-named town by reason of an older regulation, in virtue of which only 25 000 inhabitants were required for exemption from the County Council.

TABLE 59. *Revenue and Expenditure of the County Councils.*

Annually	Revenue (kronor)			Expenditure (kronor)		
	Taxes	Other	Total	Public health	Other	Total
1876—80	1 123 000	1 108 000	**2 231 000**	1 375 000	784 000	**2 159 000**
1881—85	1 294 000	1 160 000	**2 454 000**	1 442 000	1 174 000	**2 616 000**
1886—90	1 409 000	1 581 000	**2 990 000**	1 819 000	1 172 000	**2 991 000**
1891—95	1 698 000	2 039 000	**3 737 000**	2 358 000	1 476 000	**3 834 000**
1896—00	2 042 000	2 802 000	**4 844 000**	3 105 000	1 632 000	**4 737 000**
1901—05	3 153 000	3 572 000	**6 725 000**	5 044 000	2 151 000	**7 195 000**
1906—10	5 973 000	4 602 000	**10 575 000**	7 447 000	3 501 000	**10 948 000**
1910	6 661 000	4 547 000	**11 208 000**	8 717 000	3 781 000	**12 498 000**
1911	6 780 000	6 390 000	**13 170 000**	8 610 000	4 167 000	**12 777 000**

The number of County Councillors varies between 22 and 96, and amounts, on an average, to 49 in each council. These are elected separately in the country and in the towns: in *the towns*, one for every 3 000 inhabitants; in the *country* one for every 5 000 inhabitants. In the country the electoral unit is the judicial circuit *(domsaga)* but this area is subdivided into constituencies if it has a population of more than 30 000 inhabitants. Minor towns are combined into one constituency. The election, which is direct and by ballot, usually takes place in the Communal Meeting *(Kommunalstämma)* or the Municipal Meeting *(Rådstuga)*; and the votes in each constituency are afterwards collectively counted in accordance with the proportional method explained elsewhere (p. 206). To be elegible as a County Councillor a man must be 25 years old, have his domicile within the Län, and also have the right to vote within the constituency. Women are not eligible. The election is for four years. A County Councillor receives his travelling expenses and, if he lives outside the place where the Council meets, a daily allowance of 6 kr.

These Councils usually meet every year in September at the capital of the Län, but cannot remain assembled for more than eight working days. The President is appointed by the Government from among the members of the Council. The Governor has a right to take part in the debates, but not in the resolutions. In the event of a division, every member has one vote: for certain resolutions two-thirds of the votes are required; in other cases, a bare matority. The Government, the Governor, as well as every Councillor has the right of introducing measures. All the more important resolutions, must, if they are to have validity, be ratified by the Governor: if such ratification be refused, an appeal lies to the Government.

County Councils deal with all matters of administrations which concerns the Län, the development of trade, means of communication, public health, education etc. The *care of the sick* has become the most important object of their attention, and takes 60 % of all their expenses (Table 59). Their principal receipts consist in a share in the profits from the sale of spirits (cf. below[1]), the fees of paying-patients in the hospitals, etc.: where further revenues are necessary, the County Council imposes taxes — such as a

[1] Temperance Question.

poll tax for the care of the sick, amounting at most to 50 öre (about $6^1/_2$ d.) for every adult male not especially exempted, and half that sum for every woman, and a County Rate *(landstingsskatt)*, which is assessed at a certain proportion of the rateable income and which is similar to what is levied in the communes.

The County Councils have also an important *political* function to fulfil in the election of members of the First Chamber of the Riksdag (cf. page 201).

In 1914 the County Councils consisted of 696 Moderates (519 from the country and 177 from the towns), 347 Liberals (288 from the country and 59 from the towns), and 192 Social Demoerats (148 from the country and 44 from the towns).

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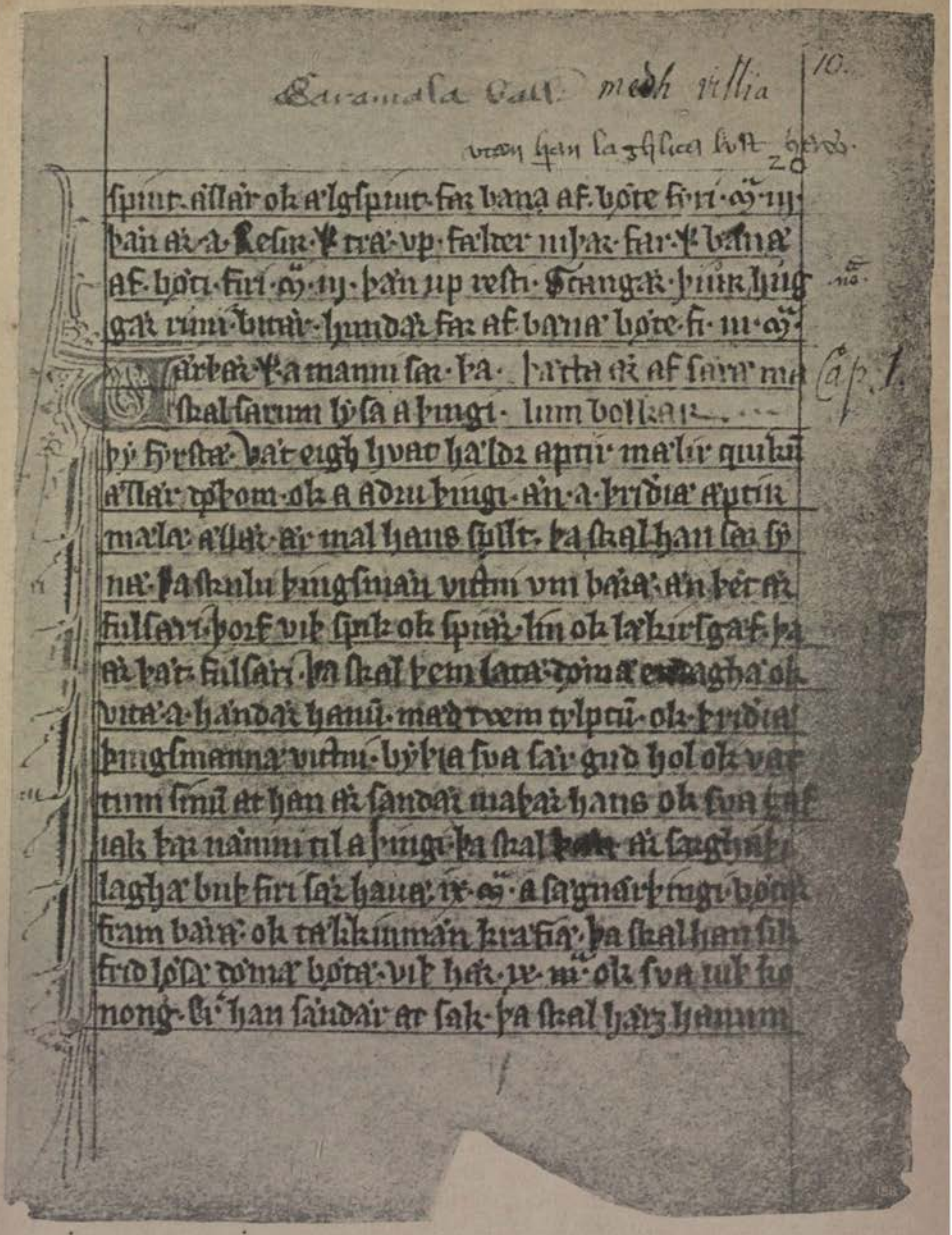
4. LEGAL AND JUDICIAL ORGANIZATION.

History of Swedish Law.

From times immemorial the Swedish people have lived their lives under the protection of laws of their own making. They have never had alien laws forced upon them, nor have they ever relinquished their own legal system to adopt an alien one. Thus, although, as is quite natural owing to the connectedness in general features of the civilizations of Western Europe, there have been influences from abroad making themselves felt in the evolution of Swedish law, that law traces its origin nevertheless back to the days when the realm of Sweden was first taking shape.

Just as the nucleus of the Kingdom of Sweden owed its existence to the uniting of various "Land" or Shires together, so the laws of those ancient "Land" or Shires constitute the foundation upon which the edifice of Swedish law has been built up. The larger "Land" or Shires were originally inhabited by distinct peoples and possessed laws of their own, *Landskapslagar, Shire Laws.*

Of those laws the oldest, e. g. *the Law of the Västgöta Men* and *the Law of the Östgöta Men*, give a rendering of popular or people-made law, written down as recited by the lawman — himself a functionary elected by the people — when making known in the "Thing" or assembly what he deemed to be law. *The Uppland Law*, on the other hand, which is the most important of the younger group, is the record of legislative work carried out by king and people jointly. These monuments, dating from the time when each "Land" or Shire had a law of its own, though not compiled until after the year 1200, contain numerous instances of legal maxims handed down from heathen times and illustrative of Teutonic legal conceptions. They bear evidence of a legal culture that in its kind is amazingly highly developed, many of the laws, if judged by the standard of that day, really deserving to be designated masterpieces of written law. There is indeed visible in these laws, as in so many other early law sources, a trace of formalism here and there; to a not inappreciable extent, however, that is modified in their case by the considerable element of popular



Leaf of the Law of the Västgöta Men.

self-government that obtained in the administration of justice, exercised on the one hand by the people themselves at the various "Things" or assemblies, and on the other by the "*Nämnd*", i. e. now Jury now Board of Assessors, who, occupying in Swedish law a position as important as that of the Jury in English law, discharged a large variety of important functions, both judicial and administ-

rative. Retaining its position in the Swedish legal system throughout the centuries, the "Nämnd", in the Era of the Aristocratic Predominance, proved a veritable bulwark, set up in the hoary past, of the Swedish yeoman class. Such foreign influence as is traceable in the Landskapslagar comes from *the Canon Law*, principally noticeable in prescriptions relating to matrimony, testamentary dispositions and the administration of justice.

Towards the close of the thirteenth century there became more and more evident the determined desire on the part of the Ryoal House and the two leading estates of the Realm, the nobility and the clergy, to diminish the divergences in the respective provisions of the various Shire Laws. Consequently, about 1350, *Magnus Eriksson's Country Law, "Landslag"*, was promulgated, to apply to and have force in all the country districts, and *Magnus Eriksson's Borough Law, "Stadslag"*, applicable to all the towns of the Kingdom and superseding the various borough ordinances, "Bjärköarätter", that had been issued at earlier dates. This Borough Law embodied prescriptions differing in many respects from those of the Country Law, with a view to meeting the special requirements of the more highly developed economic life of the towns. Subsequently a new and in some sections revised version of the Country Law was issued under the name of *Kristoffer's Landslag*, which in course of time took the place of the earlier one. The date of its appearance, as testified in the deed of enactment, was May 2, 1442. The coming into existence of the Landslag is one of the most important events in the history of Swedish culture.

In the Landslag the several provisions of the various existing Shire Laws were recast, being brought into harmony one with another and up to the legal standard of the day. In order to show the continuity that is a marked feature of the history of Swedish law, it may be pointed out that, although the Landslag was regarded as the law to be followed first and foremost, yet where it failed to yield guidance, resort was had to the ancient Shire Laws, which continued throughout the period during which the Landslag remained in force to influence very materially both doctrine and practice. Even in our times individual stipulations in the Shire Laws may be in exceptional cases of practical juridical import. Fortified by the uniformity gained in this national legislative work, Swedish law survived the critical period which saw German law succumb to foreign legal systems. Canon Law, German Borough Law, and above all Germano-Roman Law left, it is true, deep traces of their influence on Swedish law, but in no case did it amount to any actual adoption of their system. The principal changes took place in the law of procedure: the judicature was rendered more stable by the creation, as permanent additions to the edifice, of courts of intermediary instance, *Hovrätter, Courts of Appeal,* and judicial proceedings were still further set free from the trammels of earlier formalism.

By the middle of the seventeenth century the Borough and Country Laws, excellent bodies of law as they had been at the time of their conception, were quite obsolescent. By a series of special ordinances and prescriptions alterations and additions had indeed been made in them, but that meant that old and new principles of law now stood side by side, and the just criticism was passed that the law wore "the appearance of a disrupted marble wall patched up with common stones". It seemed for a time as though, owing to the defective state of the

written law, the evolution of Swedish law was to follow a path resembling that pursued by English law; that was obviated, among other causes, by the ancient Swedish tradition, handed down from the days of the Shire Laws, that the legal tenets in force must be systematically codified and that the succession of the epochs in the evolution of the law should be marked by one legal code being compiled to take the place of another.

In 1686 Charles XI appointed a number of duly qualified men to form a so-called Law Commission with the task assigned to them of compiling a new Code. The suggestions that body made, after having been many times deliberated upon and revised, were finally passed by the Riksdag in 1734 and were ordered by the King to come into force on September 1, 1736. This new Code, "*Sveriges rikes lag av år 1734*", occupies a worthy place in the series of codifications of Swedish law. Compiled on the basis of the Borough and Country Laws as well as of later promulgated laws and the practice of the courts, it amalgamates borough law and country law in one Code, reducing but not altogether obliterating the differences between the two. Keeping close to Swedish traditions in respect to language, systematisation and contents, it constitutes, though due note is taken of many of the contributions made by Germano-Roman Law to the evolution of Swedish legal conceptions and judicial practice, what may be fitly termed the Swedish law system's Declaration of Independence in relation to that alien law itself.

The method of procedure for the writing of laws that was inaugurated by the constitution of the Law Commission, has been retained, although other methods have been made use of as well. The Law Commission itself continued to exist until 1808, since when, with some few exceptions, a similar institution has been carrying on the same work, first under the designation of *Law Committee* and later under that of *Law-Drafting Board*. These successors to the Law Commission have taken over from it by inheritance the talent for composing the actual wording of their draft laws with a care and exactitude greater than are usually met with in the laws of most other nations. The necessity of having more thorough-going amendment of the existing law first became apparent after the ideas of the Age of Enlightenment had successfully penetrated. The Swedish criminal law, from the first comparatively mild in character, experienced a series of changes in a humanitarian direction which found collective expression in the new *Criminal Code of the Year 1864*. Meanwhile, in the department of civil law as affecting private individuals, the claims of individualism were attended to by the introduction of the principle of equal rigths for men and women in respect to the law of inheritance, by the enactment of more extended power of disposition of real estate for the holder thereof, etc., etc. The economic revolution, which commenced in the earlier part of the nineteenth century, necessitated the substitution of new laws for the old-fashioned trade and property ordinances and an extensive addition to the provisions for instance of the law as to obligations.

At the present time Swedish law is in a state of transition and that involves the exercise of an exceedingly large degree of care and watchfulness on the part of legislators, judges and jurisprudents.

Civil Law.

Side by side with sundry legal enactments bearing the stamp of a later era, the principal source from which Swedish Civil Law derives, is still the Code of 1734, which almost word for word handed on, so far as the topic here dealt with is concerned — that is to say primarily in its sections on Marriage, Inheritance, Land, Building and Commerce — the prescriptions laid down in the mediæval Shire Laws (Landskapslagar). Law-making, however, which has gone on unremittingly in the intervening period of time, has both altered the ancient body of laws in several points and brought an increasing number of the aspects of the daily intercourse of citizens under the purview of the written law. It is only in regard to a few isolated questions, e. g. collective bargaining between employers and workmen and the regulation of so-termed non-economic ("ideal") associations (e. g. Working Men's Clubs and Temperance Societies), that divergence of opinion has been too pronounced for positive results, to accrue from the legislative work hitherto expended upon them. Thus Swedish Civil Law in its present phase reflects, though incompletely and far from perfectly, the progressive general development of the community.

The increased international intercourse characteristic of our times also finds expression in the domain of the Civil Law. By various agreements drawn up and signed by representatives of a number of contries, among which Sweden has usually been one, a foundation is being laid of an International Law Private, which in the departments of Family Law and Immaterial Property Law has already exercised a considerable influence. As regards the three Scandinavian countries, Denmark, Norway and Sweden, a highly desirable uniformity — amounting indeed in some degree to an actual indentity of wording — has been attained in large sections of the laws passed in recent times affecting the personal rights and liberties of individuals, the items most deserving mention being Bills of Exchange Law, Maritime Law, and the Law of Sale and Purchase of Personal Property.

As might be expected, Swedish Civil Law has become permeated with the spirit of the principle, so universally to the fore during last century, of individual right of agency. Kinship ceases to be so important an element as before, though it by no means entirely disappears, especially in the domain of Family Law. The equality of the sexes in the eye of the law has also been pretty completely established. Girl and boy both now come of age at twenty-one; it is indeed possible for the former at her own will to waive the privilege attaching to coming of age, but that is a reminiscense of the

earlier order of things under which, legally speaking, an unmarried woman never attained her majority. On the other hand, as constituent members of a family a man and his wife are not on a basis of equality in the eye of the law; the husband and father occupies a position of prior authority as the legal representative of his wife, as the guardian of his children, and as the possessor of the right of decision in the home; the wife and mother, on the other hand, enjoys special protection in relationship to the creditors of the family, whereby her liability in respect to debt is rendered lighter than that of an unmarried woman.

In opposition, however, to the individualistic tendency that marks Swedish Civil Law, another principle that of the advantage of the community at large, makes itself felt. On its account numerous restrictions have been introduced by enactment regarding a landowner's rights to a free disposition of his land, with reference to the felling of timber, the damming or deflecting of streams, the quarrying of minerals, fishing and shooting rights, etc. It is moreover due to consideration for the advantage of the community at large, that legislation has sought, by restricting the liberty of entering into a contract, to furnish the economically weaker party to a contract in certain circumstances with a safeguard against oppression on the part of the stronger contracting party.

As regards the several main chapters of Swedish Civil Law, *Family Law* retains certain archaic features. Thus the clauses of the *Marriage Laws* contain much that displays the earlier influence exercised upon matters pertaining thereto by kinship and by the church.

The circumstance that legal guardianship of women still exists, even though now confined to girls under age and exercised under the control of a publicly appointed authority, constitutes a survival to our times of the right of the family to decide in regard to the matrimonial connections of its womenfolk. The time-honoured claims respecting real estate asserted by the family are represented in the exclusion of such possessions, in an essential degree at all events, from the otherwise regularly prevailing community of property between husband and wife; as husband and wife do not inherit each other, the real estate is retained in the family.

Traces of ecclesiastical influence remain in many sections of the marriage laws. Thus the church form of marriage is still the normal one in Sweden, although a civil marriage may be resorted to nowadays by any bridal pair if they prefer. The aid of the clergy is requisite, nevertheless: the registers kept by the ecclesiastical functionaries in each parish must furnish the data to show that the contracting parties to marriages are under no disability from entering the bonds, and the pulpits of the State churches still publish the banns, without which no marriage can be contracted. To the cathedral chapter too divorcees must apply to obtain their deed of separation, and betrothals are dissolved, at the unanimous wish of the two parties concerned, by the same ecclesiastical authority. A cathedral chapter is likewise empowered to dissolve certain of the so-called incomplete marriages, characteristic forms of union whereby Swedish law effects the carrying out of the mans obligation to complete the marriage by reason of his promise and his having brought the woman to bed with child.

The guiding principle on which the regulation of the legal consequences of

marriage has been based, is the community of interests of the husband and wife under the superintendence of the former. This principle has obtained, though with certain modifications, in both personal and economic respects. It has already been pointed out that the claim of the family hinders the realization of complete community of property; due regard for the personal independence of the wife and for the interests of the family as a whole, where the husband and father displays economic inefficiency, has led not only to sundry divergences from the otherwise uniform rule of the administration of the property of the family being attended to by the husband, but also to the possibility of an entire abrogation of the rule during the continuance of the marriage (partition of husband's and wife's joint estate).

It has naturally not been found possible to accord much scope in the marriage laws to liberty of contract. However, by a pre-nuptial agreement (äktenskapsförord) the parties contemplating marriage are enabled to determine their financial relationship to each other to a certain extent otherwise than the law prescribes.

Parental Law confers upon parents the right and lays upon them the duty of keeping their children that are under age in their charge, of educating them and of giving them maintenance. A considerable difference is made in respect thereto between children born in and children born out of wedlock. The latter are treated rather as being outside the family; the bond between them and the father especially is far less intimate in the eyes of the law than is the case with the former, the legitimate children. The law however recognizes as legitimate a considerably larger number of children than common opinion accepts as such in view of the mothers marriage to the father.

Guardianship of Children has for a long time been regarded as an extension of parenthood. Formerly the family was paramount in the selection of guardians, but nowadays its influence has waned, since the superintendence over the guardianship of minors has been assigned to public authorities.

Thus, it devolves upon a court of law to decide whether a guardian for a minor is to be chosen from among the members of his or her own family or is to be an unrelated party. Again, it is incumbent on a court of law, in conjunction with the duly appointed local official, to supervise and control the management by a guardian of his ward's property. In the details of management the guardian is pretty free to act as he sees fit; as regards his ward's real estate, however, a guardian's freedom of action is somewhat circumscribed. In Stockholm there exists an institution of long standing, the Public Guardian Office, "Förmyndarkammaren", that takes charge of and administers the money possessed by minors in that city.

The principles on which the Swedish *Law of Inheritance* rests may be said to be as follows: Certain rules of descent, some of them very ancient, which nowadays however include equality as between men and women; an illegitimate's right to inherit his mother and any relative on her side, though not his father and his father's kinsmen; the right to frame a will as desired, restricted only as regards direct issue, whose claim to half the inheritance is unreservedly secured by law; practically unre-

stricted competence for the individual inheritors of the estate of one deceased to undertake the winding up of the estate themselves and the distribution of the proceeds of the same; finally, a system for the settlement of the devisor's debts, responsibility for which devolves in the first place on the devisees, combined however with their right to divest themselves of further liability in respect thereto by handing over the bankrupt property of the deceased to the creditors, "urarvakonkurs".

In respect to the relationship of one individual to another in the economic sphere, the leading ideas that have determined the tenor of the *Law of Obligations* for the most part are: The right on the one hand for the individual to decide for himself what obligations towards others he chooses to assume, and on the other the duty to stand by and keep his word, even if that has not been given under special forms or circumstances.

General liberty of contract therefore exists, even though it has been restricted in one or two points with a view to protecting the weaker party from the effect of too onerous stipulations. Thus, usurious interest may not be charged, nor may the labour of an indefinite number of days be exacted from a cottar in exchange for his holding; certain over-severe conditions too that a landowner or a landlord may have induced his tenant to accept in the form of clauses embodied in the lease, are by law subject to annulment. In ordinary cases no specially prescribed form is obligatory to render a contract valid; provided it is indubitably apparent that the parties are at one, the mutual engagement is established. In the case of some few contracts, mostly those relating to the conveyance of real estate, the law does prescribe the drawing up of a duly certified document in order to preclude measures being precipitated and wrong thereby arising; in regard to some other contracts or agreements (e. g. advances of money, loans, gifts of personal property, valuables lodged for safe keeping) no legal obligation arises until the advance, gift, or deposit shall have been actually effected.

Apart from those exceptional cases, a word given is therefore binding in itself. Whatever a person of full age and responsibility has said or written constitutes an obligation upon him in such wise as the other party, to whom the statement has been addressed, has without deception or negligence understood its contents. Any error consequently that may have occurred, either verbally or in writing, which has conveyed to the statement a sense other than that intended by its originator, a false conception lying behind the statement as its necessary proviso, is of no consequence as far as the other party is concerned, he not having observed the mistake. In respect to certain negotiable documents issued for the discharge or acknowledgment of debt — bills of exchange, cheques, promissory notes — the good faith with which the holder took them is of still greater import, depriving, as it does, the debtor of the right of raising such objections as he otherwise might (e. g. concerning the holder's mode of acquisition, earlier instalments of the debt paid off, contra-accounts against the original creditor); on the other hand the creditor's good faith is in adequate to overcome a debtor's disability to enter into a bond, or to render a forged document valid.

During the last two decades a great deal of legislative labour has been spent on codifying and keeping up to date the body of laws appertaining to *companies* and *associations*. A thorough-going distinction is here made between the private companies, with as few as two partners, and the joint-stock com-

panies and economic associations, with their more numerous shareholders or members: the former group enjoy an extensive right of contract, no restrictive formalities existing with respect thereto; the latter group on the contrary have their freedom of action considerably circumscribed by a number of formal and controlling prescriptions and devices with a view to protecting the rights of the minority. It is moreover a simpler matter for the smaller companies to acquire the rights and obligations of a juridical personality, provided that their constitution admits of their occupying that position at all, than it is for the larger ones, who for that purpose must be publicly registered. Associations that have been founded for special purposes of far-reaching economic significance (banks and insurance companies) have to submit to still more strict control, as is also the case with associations formed to promote some social purpose and specially important to the community at large (e. g. sickness and burial benefit societies, friendly societies, etc.).

The legal principles respecting the *Rights of Material Property* that are in force in Sweden fall into two almost distinct groups, one applicable to real property, the other to personal. In the case of the latter the law provides a very extensive measure of protection for the property honestly acquired that has been in fact taken possession of. Possession in law can indeed be acquired without possession in fact, but the protection it enjoys is in several particulars incomplete. The right of pledging personal property, unless possession of it has been acquired, can only accrue under very exceptional circumstances.

A characteristic of the codified legal principles affecting real property is the survival of the ancient conception of the great value and importance of the land.

A change of ownership should be effected with care and caution; hence the conveyance or transfer of property as well as its mortgaging can only take place if a written document, duly signed and witnessed, is drawn out; on the other hand the conferring of other restricted rights of property (letting on a lease of land or house, encumbering with servitude or reservation) *may* it is true take place by word of mouth, though such agreement would not hold good as a rule, should the property pass into the hands of a new owner. In regard to real property good faith on the part of the acquisitor as to his property is of far less importance than in the case of personal property; the taking possession too plays a more subordinate part. The enrolment of the conveyance or mortgage in the records of the proceedings of the court is on the other hand of so much more importance from the point of view of the legal protection afforded to the acquisition, although it must be confessed that Swedish law cannot as yet boast of possessing a system of enrolment that is completely satisfactory. A good deal still remains to be done before the several estates in each land area will be clearly and sharply individualized, in spite of the facts that the parcelling out of the land was comprehensively settled some time ago and that a Swedish Land Register is in course of compilation. Immemorial usage is also recognized as a measure of protection in Real Property Law.

The right of lien on real estate, which in principle can only come into existence through a mortgage deed, renewable after the lapse of ten years, is realizable by the enforced sale of the estate, which in the past has entailed the doing away with all the rights of lien upon the estate, whether the mortgagees received their due or no; in accordance with the terms of a new law recently

passed but not yet in force, rights of lien enjoying priority to that of the applicant for the realization of the estate shall not be invalidated.

Among *Property Rights of an Immaterial Nature* the following are recognized and protected by Swedish law: Literary and artistic copyright and industrial proprietorship in certain forms (patents, trade-marks, patterns); Sweden adheres in those particulars to the international Conventions of Berne 1886 and Paris 1883. The firm-name of a commercial house is also protected by law after it has been duly registered. Family names too are protected against misappropriation, though the protection afforded is only partial.

Criminal Law.

Swedish criminal laws as a whole embrace first and foremost the *general criminal code,* in addition to which there are the special criminal code for the military and naval forces and a number of isolated penal clauses emboidied in other statutes. It is deserving of especial mention that any breach of the law respecting the contents of a printed publication is dealt with exclusively in accordance with the penal clauses of a liberty of the press act, ranking in sancity and authority with the fundamental laws of the land.

The general criminal code was promulgated in 1864 and, notwithstanding a few partial amendments in its terms introduced since, it still remains for the most part as it was first issued, reflecting the conceptions characteristic of foreign criminal law codes of that day.

According to the ideas forming the basis of Swedish criminal law, punishment comes into play as a deprivation or pain inflicted upon any misdemeanants, provided they be in their right minds, as a retribution for the acts committed by them that are reprehensible from the point of view of the community as a whole. Of special measures — apart from punishment — for protecting the community against individuals of subversive or law-breaking tendencies, there are only very faint traces in the Swedish criminal laws (certain so-called subsidiary punishments). Moreover, where law paragraphs concerning such measures exist, they have been accorded a civico-legal character differentiating them from those of the criminal code proper, their administration accordingly devolving on civil officials and not on courts of law. This holds good both as regards measures prescribed for the taking in charge of dangerous lunatics, who being unable to exercise control over themselves are deemed by the courts to be irresponsible for their actions, and as regards the imposition by law of compulsory labour upon tramps and casuals; the same character also attaches to the clauses concerning the forcible detention of habitual drunkards in the law passed in 1913. Not until quite recently has the close connection existing between individual preventive measures and punishments led to prescriptions relating to such preventive measures appearing in the criminal code. By

the terms of a law passed in 1902 a criminal court is empowered under certain conditions to direct that juvenile offenders of from 15 to 18 years of age, in lieu of undergoing the ordinary penalty, shall be sent to a penitentiary or Borstal Home.

The following punishments are inflicted by the law: the penalty of death, penal servitude or imprisonment with hard labour, imprisonment without hard labour, fine.

The penalty of death is not an unconditional sentence, the alternative of life-long imprisonment at any rate being always open to the judge. The entire abolition of capital punishment has been recently mooted and won much support.

Hard labour and imprisonment are the *loss-of-liberty punishments* known to criminal code. Sentences of imprisonment with hard labour are for life or for some specified term, the lowest being two months. For shorter terms imprisonment with hard labour and imprisonment without hard labour run parallel to each other, two months of the latter being deemed equivalent to one of the former. The maximum sentence of imprisonment (apart from cases where more than one crime has been committed) is two years, the minimum is one month. One month is consequently in Sweden the shortest period for which anyone can be sent to prison; that being so, there has been an absence in Sweden of the unsatisfactory results observed in other countries to attend brief sentences of imprisonment.

In respect to the actual serving of the sentences, the chief difference between imprisonment with and imprisonment without hard labour consists in the former embracing compulsory labour as an element in the pain or suffering to be inflicted by the punishment, and also in the hard-labour convict not being permitted to provide himself with food and clothing beyond what the prison authorities supply. On this subject reference may be made for further information to the article in the present work on Prison System.

Loss-of-liberty punishment for *a short period* (maximum, two years) may be accompanied by *afflictive hardship* (plank-bed, combined if need be with dark-cell confinement) in cases where the criminal has displayed exceptional savageness or evil intent. Those sentenced to serve a longer term of incarceration may be *conditionally set at liberty* before the expiry of their time.

Fines are dischargeable in money; their collection proceeds in the same way as that of private claims. There are no stipulations regarding the payment of fines by instalments or for their discharge by the delinquent doing an equivalent amount of work in default of payment. If the fines cannot be paid in full a special loss-of-liberty punishment is imposed in lieu thereof, which involves to some extent stricter rules of observance than ordinary imprisonment. Confinement to prison in lieu of fine is imposed for periods varying from three days to sixty, the latter spell being considered to correspond to a fine of 570 kronor and upwards.

By the terms of a law passed in 1906 the principle of *conditional release* was introduced into Swedish criminal law. By that measure a Swedish court of justice is empowered to order that the execution of a penalty imposed shall be postponed, the delinquent in the meantime being under probation. Should he pass through that period satisfactorily, the penalty he was sentenced to undergo is cancelled once for all. The privilege of this conditional release is only accorded to first offenders who have not

been guilty of crimes involving severer penalties than three months' hard labour, six months' imprisonment, or a fine which it may be concluded the delinquent will be compelled to discharge by serving a term in gaol.

Full *responsibility* with respect to criminal acts commences at the age of fifteen, but for those between the ages of fifteen and eighteen a special scale of reduced punishments is applicable. Mental disease and aberration of mind incurred through no fault of the agent are furthermore grounds, under certain circumstances, for a declaration either of mental incapacity or of enfeebled mental power, involving in the latter case a diminution of penalty.

Attempts at, and *preparations for,* the committal of crime are dealt with by the Swedish law far less rigorously than is the case in most legal systems abroad. *Complicity* in crime (instigation and aiding and abetting) is regarded as a phenomenon accessory to the act of the perpetrator of the crime and acquires its special character from its relationship to that act. *Previous conviction* in certain types of crime (larceny, robbery, and other such breaches within the scope of the general criminal code) involves an increase of penalty, though that is not the case, save in rare exceptions, respecting professional or habitual criminals as such.

In *the various categories of crime* there comes out very strikingly the importance attaching, in respect to the magnitude of the penalty, to the degree of the effect, that the criminal act may have produced, even though that was never contemplated by the perpetrator himself or can rightly be set down as his deed. A case of outrage on the person done of malice prepense that results in the victim's death, is thus punished much more severely than any such outrage that only occasions bodily injury, the latter type of outrage being moreover punished differently according to the degree of severity of the injury produced.

The clauses of the Swedish criminal code contain no such subdivision of the crimes into more and less serious offences, as is common in foreign criminal codes. The occurrence of one or another penal stipulation in the general criminal code, or in any other statute, cannot either be considered as based upon any special principle. In the criminal code offences are enumerated that partake of the nature of so-called police-court or petty misdemeanours, just as on the other hand stipulations respecting actual crimes are to be met with outside the pages of that code (e. g. the penalties imposed for usury, which are embodied in a special law relating to that type of offence).

In the criminal code the various crimes are enumerated (with the exception of administrative errors, which form a chapter by themselves) in eighteen chapters, each of which as a rule has some central object against which the criminal acts dealt with in that chapter are directed. Thus among offences against the person those involving an infringement of the sanctity of the individual form one chapter, those that constitute a restriction of his liberty another, those affecting his honour a third. Of encroachments upon another person's property those involving damage, theft, robbery, destruction, and bankruptcy offences are treated in separate chapters. The offences against the public at large are subdivided into chapters, three of them dealing respectively with: Wrongs done to Public Authorities, Perjury, Forgery.

A thorough-going *reform* of the general criminal code is about to be undertaken. Dr. J. C. W. Thyrén, Professor at the Lund University, has been entrusted with the task of compiling a preliminary outline with a view to establishing the principles upon which the contemplated reform should be based.

Courts of Justice.

Like all the more important sections of Swedish law, that relating to legal procedure in the courts rests essentially on a national foundation. The principal part of the body of laws in force at the present day consists of the **Code of 1734,** the contents of which may be regarded as the result of a secular course of development independent of foreign influence. The history of the courts of justice in Sweden is not marked by any of those revolutionary changes that have taken place from time to time in certain other countries. Thus, the jury-system, which made its entrance so triumphantly elsewhere, has hitherto not made the conquest of Sweden, another device having been early adopted for affording laymen an opportunity of having a share in the administration of justice; nor have there existed at any epoch in Sweden, to the same extent as in other countries, causes rendering the adoption of the jury-system a keenly longed-for reform, such, for instance, as the subservience of the administrators of justice to political influences and the exaggerations of legal procedure by written documents. The principles indeed underlying the time-honoured methods of legal procedure in Sweden seem still to possess so firm a hold upon the minds of the public, that any attempt to bring about a radical reform on the analogy of the institutions of other countries would meet with but little chance of success.

In Sweden, as elsewhere, a distinction is made between *General* and *Special Courts of Justice.* During the course of last century the Swedish system of judicature was considerably simplified by the abolition of several courts whose jurisdiction was limited in one direction or another, numbers of important branches of juridical business being at the same time transferred from administrative authorities to the purview of the Courts of Justice. Latterly, however, there has become noticeable a certain tendency towards having cases that are considered to require some amount of expert knowledge, dealt with by courts presided over by judges duly selected with reference to such knowledge. The General Courts of Justice are all of them, without discrimination, resorts both for criminal and civil cases. Special *Petty Courts of Justice,* for the trying of less serious cases, do not exist, nor is there any corresponding petty court procedure. The only existing counterparts to petty courts are Police-Courts and Police Chambers with judicial powers, which have been established in certain of the larger towns.

As regards the lower courts of justice *a town forms a jurisdictional unit quite apart from that of the surrounding rural district.* This distinction of town from country dates from a time, previous to the enactment of the Code of 1734, when rural districts and towns were governed by

separate laws; it is also connected with the position of the towns as regards administrative authorities. However, certain small towns are subject to the rural courts of law.

The *country* as distinct from the towns is divided into 121 *judicial districts* (Domsaga), each presided over by a *District Judge* (Häradshövding). A domsaga may consist of two or more subdivisions, so that the actual number of judicial divisions (Tingslag) is 216 (in 1914). Each tingslag has its **District Court** (Häradsrätt), that being the ordinary lower court of justice. Such a court is constituted by a duly qualified legal official in the person of the district-judge (see above), who presides, and by a board of assessors consisting of twelve unsalaried men (Nämndemän), chosen by public election, who assist in the proceedings.

The nämndemän, of whom at least 7 must be in attendance, are called upon to assist the district-judge in deciding upon questions both of law and of fact. When a difference of opinion arises, the vote of the judge is decisive, unless all the nämndemän present are unanimous on the other side. The above statement, however, may be misleading in so far as the reader will scarcely be likely to deduce from it an adequate idea of the real extent of the influence accruing to the nämndemän, an influence that is largely due to their accurate knowledge concerning persons and affairs in their locality. This is especially marked where — as is very often the case — the nämndemän have gained experience in the routine business of the court by virtue of many years of service. It may, therefore, be unhesitatingly averred that the lay element in the district-courts makes itself very effectively felt, being not only a valuable addition to the deliberative strength of the court itself, but a safeguard in the eyes of the general public for the justice and humanity of the decisions there arrived at. The legal element in these district-courts is also possessed of a greater degree of authoritative strength than might be imagined by any one who was casually informed of their composition. The position of district-judge is a highly esteemed one; as it, moreover, carries with it a relatively speaking large salary, such a position attracts well experienced, and not infrequently highly distinguished, lawyers. It is the custom, furthermore, for a new-fledged lawyer, fresh from his studies at the university, to spend two or more years in the employ of a district-judge, that he may thereby acquire practical experience of juridical procedure; during this period of his apprenticeship, which has come to be looked upon almost as an obligatory part of his training, he will discharge, in his own person and on his own responsibility, the duties of his chief for a period of at least some months, covering a number of sittings of the court. One decidedly weak point in regard to the district-courts, however, is that the ordinary sessions, varying as to times of holding from district to district, are even in the most favourable cases too few and far between, though extra sessions are, it is true, appointed to be held for dealing for instance with cases of personal arrest. The inevitable delay in the administration of justice that the infrequency of the sessions entails is further enhanced by the difficulty that exists, owing to a variety of circumstances of both a judicial and a practical character, in effecting that concentration in the conduct of legal proceedings that would be so great a boon to all parties concerned. When disputes are referred, as often happens, to arbitration for decision, it is undoubtedly principally owing to the desire felt to avoid delay and procrastination; the question of cost cannot play any decisive part in the matter, as legal proceedings in Sweden, as a rule, do not involve, comparatively speaking, a large outlay of money.

In a *town* justice is administered *in the first instance* by the **Borough Court** (Rådstuvurätt), which in the larger towns is divided into two or more divisions, each being empowered to pass judgment alone. The members of the borough court, who at any rate to some extent form at the same time the ordinary administrative authority of the town (the so-termed *Magistracy*), are three in number: one *Borgmästare* (Mayor) and two *Rådmän* (Aldermen). These officials are salaried by the town and are instituted to their offices by election; the rådmän in Stockholm and the borgmästare throughout the country, however, are appointed by the Government, though the choice is restricted to a list of three duly qualified persons elected as candidates by the town (cf. State Administration p. 216).

The members of a borough court, with the exception of some rådmän in certain of the smaller towns, are all professional lawyers. In certain cases falling under *Maritime Law* the constituent membership of the borough court consists of three ordinary members and of three experts, the latter being selected by election. In cases falling under *Commercial Law* there are to be, at some of the borough courts, in addition to two ordinary members versed in the law, two other members versed in commercial practice, who shall be selected by election to serve, but only in the event of one party to the case expressing a desire to that effect; in the same way, at the Stockholm city court, when certain cases falling under *Patent Law* occur, there are to be three members versed in industrial matters, appointed by the Patents Authority, to act in conjunction with the prescribed number of ordinary members of the court. It must be added, however, that the stipulations just cited have hitherto been but little resorted to. The members of a borough court always enjoy individual votes of equal value. From the manner and conditions of appointment, as above detailed, it follows that the personal qualifications of the members will in general be higher, the larger the constituency which elects them. The borough court meets at least once every week.

In cases concerning *the Liberty of the Press*, the question of whether the publication arraigned is libellous or not is decided by a so-termed *Jury*, to be constituted in the borough court. Three out of its membership of nine persons are nominated by each of the parties to the suit, the remainder by the court.

The general tribunals of the *second instance* are the three **Courts of Appeal** (hovrätter), viz. Svea Hovrätt, located in Stockholm, Göta Hovrätt in Jönköping, and the Skåne and Blekinge Hovrätt in Kristianstad, first-named established in 1614 by Gustavus Adolphus, the second in 1634 by Queen Kristina's tutors and the third in 1820. Each of these Courts is constituted by a *President* together with a number of *Judges of Appeal* (Hovrättsråd). Each court of appeal is subdivided into divisions, from two to seven in number, in each of which five judges have seats, and which can exercise judicial powers, provided there be a minimum of four judges present. All cases, whatever their character or importance may be, can be carried up to the courts of appeal from the lower courts. The hovrätt is a full court of appeal for both civil and criminal cases, where the facts of the case in question are again examined, and

where fresh evidence may also be adduced. The cases are brought forward, in some instances, by constituent members of the tribunal, in others by special officials attached to it.

The highest judicial tribunal has been from olden times the King. His functions as such are now exercised by the **High Court of Justice** (Högsta Domstolen), with a membership of 24 professional lawyers, entitled *Chief Justices* (Justitieråd). Three chief justices together with one member of the Supreme Administrative Court (Regeringsrätten, "Crown Court", see below), form *The King's Law Council;* to that body have been allotted the functions formerly discharged by the High Court of Justice in respect to the revision of proposed laws. As a rule, of the remaining chief justices seven at most are engaged in the hearing of any one case. In order to ensure uniformity in the administration of justice it is enacted, however, that when the decision of the majority as delivered in any division is found to be at variance with some legal principle previously established by the High Court, the case shall be referred to the further consideration and final decision of the members of the High Court not doing duty in the Law Council, met in full conclave. Any case tried in the courts of appeal may be carried forward to the High Court if it be desired to challenge the judgment passed. The High Court is a court of appeal in the fullest sense, like the hovrätter, from which any case may be carried on to the High Court, though a public prosecutor is not, as a rule, entitled to appeal against a decision given in any of the hovrätter. The cases are prepared by an ad hoc constituted board: *The Revising Judicial Office* (Nedre Justitierevisionen), the members of which have the title of Revising Commissioners (revisionssekreterare); the cases are also brought forward before the High Court by those officials.

It is not obligatory to employ *counsel,* and no official system of pleading in the courts has been organized (cf. Part II, Synopsis of Trade and Industrial Legislation, Private Organizations). In consequence it is necessary for the presiding judge in the inferior courts to be very vigorous, impartial and alert in his conduct of the proceedings. The sessions of the lower courts are open to the public: records of the proceedings at all the courts, including the records of voting as to the sentences and also all the documents and briefs drawn up in connection with the cases, are accessible to any and every one for examination or publication, if he so desires.

There are *certain suits,* more especially those relating to the liberty of the press, to bills of exchange and to maritime affairs, in which the borough courts have the sole right of decision. On the other hand there are no ad hoc trade-dispute courts. Of *special tribunals* now existing may be mentioned the Court of Impeachment, dealing with breaches of law committed in the discharge of their official functions by the King's constitutional advisers, by Chief Justices or by Administrative Chief Justices (see below); the Audit Court (Kammarrätten), dealing with cases arising out of the maladministration of public funds; Ecclesiastical Courts, for trying clergymen accused of offences committed in the discharge of their office; Military Tribunals; and Landed Property Courts, for settling certain questions regarding the adjustment of estates etc.; the constituent members of

the lastnamed courts are the resident district-judge together with three assessors chosen by the community from among persons of competent knowledge on the questions at issue; the members of these courts are empowered with individual and equal voting rights. Any one sentenced in any of these special courts has the right of appeal to the general courts, or at all events to the High Court of Justice. The *military tribunals* of the first instance — the courts martial (Krigsrätter) — are constituted by four military men and one professional lawyer. The tribunal of the second instance is a special Military Court of Appeal (Krigshovrätten), constituted in a similar manner. Appeal may be made from that tribunal to the High Court, where two military men also have seats when military cases are being tried. With respect to the publicity of procedure and of the records of the proceedings, the same regulations hold good as for the corresponding general courts of justice. Consular jurisdiction is exercised by a Consular Justice, who is invested with the powers of a police officer and distraining official, and by a consular court; the Svea Hovrätt is the court of second instance and the High Court of Justice the third and final instance.

It may be stated that there do not exist any ad hoc constituted courts of justice for *administrative cases,* i. e. cases arising out of the discharge of their functions by public servants. They fall under the purview of the administrative board concerned. In 1909 a new authority was created, which collaterally with the High Court of Justice was to serve as a final instance for appeals against sentences pronounced by the said administrative board, viz. the *Supreme Administrative Court* (Regeringsrätten, "Crown Court") consists of seven *Administrative Chief Justices* (Regeringsråd), one of whom, however, does duty in the Law Council. A very large number of administrative cases come under the surveillance of the Administrative Court, including all those for the consideration of which juridical knowledge and experience are regarded as exclusively or primarily requisite; these have been enumerated in a special Act. The cases are brought forward and laid before the Court by officials attached to the several departments of state. Other administrative suits are still dealt with in the last resort by the Government, as is the case with administrative questions generally. In cases respecting the administration of the Poor Law, the Audit Court is that of final resort.

The courts of justice do not act as *authorities for executing civil judgments,* that task lying with special bodies, chiefly administrative in character. Claims for the recovery of a debt of which the creditor has evidence in writing, are to be preferred either in the inferior courts of justice or before superior executive bodies. The decisions arrived at in the latter case may be appealed against in the Court of Appeal, while a debtor who has been sentenced to pay a claim which he repudiates, may bring the matter before the notice of an inferior court of justice. To secure the payment of a claim of which no written evidence exists and which is not damages awarded in a court of law, assistance may be applied for to the superior authority for carrying civil judgments into effect; the result will be that, unless the man sued establishes a plea of incompetency against the application, the claim will be treated as a judgment debt; even

in that case the debtor is at liberty to try to gain exemption in a court of law.

Sweden has accepted the articles of the *Hague Conventions* of Nov. 14 1896 and July 17 1905 respecting international legal assistance, as it is termed, and has negotiated with Germany and Norway regarding the introduction of certain simplifications in the carrying out of the second of the conventions named. A special convention had long before been entered into with Denmark, whereby the execution of sentences was assured for the two countries commutatively.

Of the three *Courts of Appeal*, the Svea Hovrätt embraces within its jurisdiction Svealand, Norrland, and the island of Gottland; the Hovrätt for Skåne and Blekinge, those two provinces; and the Göta Hovrätt, the remaining provinces in Götaland. The areas and populations of the country under the jurisdiction of each of the three in 1911 were:

Hovrätt	Läns	Sq.km	Population
Svea	14	349 300	2 761 322
Göta	8	75 200	1 960 317
Skåne and Blekinge . .	3	14 300	840 160

(To obtain the total area of Sweden, 9 100 sq.km must be added on for the four large lakes in Central Sweden.)

Some of the more important items in the Swedish **Judicial Statistics** for past decades may be here given by way of conclusion to this survey; the statistics go back a longish way, though certain alterations effected in some particulars render their continuity not quite complete and consequently impair their value (for criminal statistics see an earlier chapter pp. 163 foll.). The annual number of *cases of dispute* brought before the courts of the first instance is as follows (for the sake of comparison the figures of the population are appended):

Annually	Mean Population	No. of Cases of Dispute	Per 1 000 Inhab.
1831—40	3 013 722	80 440	26·69
1841—50	3 306 269	70 835	21·42
1851—60	3 642 321	54 593	14·99
1861—70	4 079 233	43 710	10·72
1871—80	4 386 953	31 780	7·24
1881—90	4 673 225	39 700	8·50
1891—00	4 931 944	40 601	8·23
1901—10	5 310 120	53 269	10·03

Out of every thousand of the *civil* actions brought before the lower tribunals each year, 93, on an average for the years 1901—10, were carried forward to the Courts of Appeal, while in 20 cases proceedings were continued to the High Court of Justice, whereas in one thousand *criminal cases* only 20 were carried forward to the Court of Appeal and not more than 7 to the High Court. The inclination to appeal to the Hovrätt appears to have been on the increase from 1861 to 1875, but to have declined again since the latter date.

Administration of Justice.

The principal statutes dealing with the administration of justice in Sweden are *the Court-of-Law-Proceedings Section of the 1734 Code, the Bankruptcy Act of 1862*, and *the Executions Act of 1877*. In addition

to these there exist in other statutes clauses bearing upon a number of special questions connected with this topic.

The section of the administration of justice that, for each action that is begun, is engaged in determining which of the two parties to it is in the right, *so-called judicial proceedings,* is entrusted as a rule to courts of law, though in exceptional cases to official bodies exercising functions mainly administrative.

Judicial proceedings in lower courts are as a rule conducted publicly, in superior courts in camerâ. In the former courts the conduct of the cases is mainly by oral pleadings, but records of what is said are made and they form the basis of the decision of the court. In the superior courts, on the other hand, the cases are dealt with in the main by means of written documents.

Moreover *civil procedure* presents essential differences from *criminal procedure.*

The mode of procedure in civil-law cases is dominated by the discussional method. It always rests with the individual to call in the protection of the law, and that protection is not accorded beyond the extent demanded by the complainant. It also devolves on the parties to effect such inquiry and establish such proof as may be necessary. Up to that point the judge remains for the most part an unparticipating actor in the scene. Inasmuch, however, as the parties are always entitled to plead their cause in person before the court, the judge does exercise extensive functions as the conductor of the proceedings. Thus he has the duty more especially of so managing the conduct of the case, independent of the parties to it, that clearness and order shall emerge and be maintained in the proceedings, and has also to intervene if necessary during the progress of the case to insure that definiteness and completeness may be attained in what the parties have to state. Indeed it is undoubtedly often the case that the judge's active share in the proceedings extends much farther than has been here indicated.

Civil cases are almost without exception commenced by the issue of a writ of summons by some public authority, which, however, it is the business of the plaintiff to serve upon the defendant. There is no provision for any preliminary discussion of the case or for any passing to and fro of briefs before the trial begins in the court. The parties are at liberty to plead their own cause before the court. A subdivision of the evidence by means of preclusive restrictions, with a view to allotting certain portions of it to the different stages of the trial, is but seldom resorted to.

The various forms of evidence are: actual observation, sworn evidence of one party, admission, evidence of witnesses, documentary evidence, and the evidence of experts specially called in. The relative amount of importance to be attached to the various forms of evidence is laid down to a large extent in the law itself. The elaborate system of rules as to the persons who are excluded from being witnesses are of especial importance from a practical point of view. There is nevertheless a tendency noticeable in the courts for the judges to set aside the restrictions imposed upon them by the legal theory of evidence. Evidence may be adduced not merely for the immediate confirmation of the conclusive facts brought forward in the case, but also for so-called circumstantial proof.

The court can pronounce a decision during the progress of the trial upon any

mooted processual questions. The real question at issue between the parties is not decided until final judgment is given.

For reasons of a historical nature criminal cases include not only actions in which a criminal charge is preferred, but also actions in which the aid of the law is called in to settle a civil dispute arising from some wrongful deed, e. g. a claim for damages on account of a crime committed. In the latter actions, however, the mode of procedure shows a tendency increasingly to resemble that of civil cases.

The mode of procedure in criminal-law cases is dominated by the inquisitorial method. In all the stages of the trial the right of the court to take an initiatory part is manifest. With respect to serious crimes the court is entitled itself to institute proceedings, though it seldom does so. In thrashing out the details of a criminal action and in procuring evidence the court takes a very active part.

As parties in a criminal action there appear on the side of the prosecution a public prosecutor, a private prosecutor (i. e. the injured party), or both. A private prosecutor almost always enjoys the right to plead both in respect to the penalty to be imposed and to other consequences of the crime. There are, on the other hand, a number of crimes, principally of a less grave character, which for various reasons have been excluded from the province of the public prosecutor, and in them consequently he has no right to plead. In sundry other cases his right to prosecute accrues on information being lodged by the injured party. In other respects his right to prosecute respecting punishment for crime is unrestricted. In such criminal actions as in case of conviction may lead to a hard-labour sentence, the defendant is under the necessity of appearing in person to stand his trial in the court; he may however avail himself of the assistance of counsel. If in a case of that description he has been subjected to arrest, the court of justice or an administrative authority may appoint, at the request of the prisoner, some qualified lawyer to take up his case and defend him; the charge or fee of such lawyer is defrayed in advance out of public funds. In other cases the defendant may be represented by counsel, who pleads on his behalf.

When the crime is one that falls in the province of the public prosecutor, there is usually held a preliminary police-inquiry as to the nature of the crime before it is dealt with by the court of justice; such inquiry is conducted by a prosecutor or by a police magistrate; neither the court of justice nor any of its members are participators in it as a rule.

Among the coercive means devised to promote the effective conduct of the inquiry into the case or to ensure the execution of the punishment, there may be mentioned arrest, confiscation of goods and chattels, and house-visitation. These measures are usually resorted to previous to the holding of the trial, but may occur also during its progress.

Criminal proceedings are commenced by a summons, by arrest, or, in exceptional cases, by a charge preferred before the court.

As regards the forms of evidence in criminal cases the same rules apply in the main as in civil cases. The legal theory of evidence is however kept somewhat more in the background, and the oath of a party to the case can only occur to a limited extent.

In the judgment pronounced as the conclusion of the trial the court may acquit the prisoner, condemn him, or leave the case open for future decision. In the last case the trial may be recommenced at any date, while in the other two, if it is a question of a serious crime, the trial may also under certain circumstances be recommenced, to the disadvantage of the defendant.

The transfer of a case from one court to another is effected by the following principal *methods or reviewing sentences:* lodging an appeal, *(vad),*

or a protest, *(besvär)*, when it is from a lower or ordinary court to an appeal court, and by lodging a protest, *(besvär)*, or demanding a review, *(revision)*, when it is from a court of appeal to the High Court of Justice.

Appeal and review are generally allowed against final judgments in civil cases, protests on the other hand against certain decisions arrived at during the progress of the trial, and also respecting final sentences in criminal cases.

Final sentences and decisions may as a rule always be appealed against in a higher court. No claim to a "summa appellabilis" is warranted by the law. In the case of review, however, the appellant is required to deposit a review-fee of 150 kronor, which is however refunded if the sentence be altered; otherwise it accrues to the crown.

As far as the public prosecutor is concerned a final judgment pronounced by a court of appeal in a criminal case can only be appealed against in obedience to an authorization on the part of the Prosecutions Board.

All of those means of transferring a case to a higher court have in view a renewed examination of the question at issue from beginning to end. There is no means in existence whereby the question of law alone can be subjected to investigation. Fresh evidence may be adduced before a higher court.

As already stated, the procedure in the higher courts is principally by means of documents. If however the court deems it desirable, an oral examination of the parties may be instituted, in connection with which witnesses may be called in or other evidence be brought forward. When such oral examination takes place, a record of what is elicited is kept, and upon it the final judgment is based. Thus in a superior court the material upon which the judges can form their decision consists of all the records of examinations of parties and witnesses and the documents handed in.

Essential divergencies from the modes of procedure above described are to be met with in the so-called *extraordinary forms of procedure*, which for the most part occur in the courts of special jurisdiction. Of those modes of procedure may be mentioned that for recovery of judgment debt suits, those for cases falling under bills-of-exchange law and maritime law, those of courts martial, liberty of press law, and finally that characteristic of cases falling under the jurisdiction of the cathedral chapters.

That section of the administration of justice that has to do with carrying into effect judgments passed in civil suits, *the so-called executorial procedure*, is entrusted to administrative authorities, the Superintendent Executor and his Officer or Distrainor.

Before an execution can be set on foot, the existence of a special cause for execution is requisite, i. e. the claim, on account of which the process is to be carried out, must be established in a certain prescribed way. Such causes of execution are, for instance, a judgment pronounced in a court of law, a sentence in a judgment debt trial, an arbitration award, etc. A mere bond or similar document is not on the other hand sufficient to warrant an execution being carried out. If the claim to be carried into effect consists of the satisfaction of some debt, the execution process commences with a distraint, such distraint taking effect on the debtor's property. The distrained goods and chattels are

then disposed of by public auction and the proceeds yielded thereby are distributed among the creditors. If the property distrained is real in its nature, and not personal, there is, as a rule, no possibility of selling it, unless the amount obtained by such sale would be sufficient to cover all the claims upon the property that have prior rights to that for the settlement of which the distraint has been made, and would besides leave something at any rate over for the satisfying of the said claim. If these conditions are not fulfilled, a compulsory administration of the estate on behalf of the creditors may be proclaimed.

An executive authority can likewise carry out certain preliminary measures calculated to render feasible the effecting of an execution later on. Of such measures may be mentioned: sequestration, prohibition of dispersal of goods and chattels, prohibition against a debtor leaving home.

For making a claim to payment effective there is another execution method, viz. *bankruptcy*.

With respect to the property of any debtor, bankruptcy proceedings may be instituted, either at the instance of the debtor or of one of his creditors. In the latter case, unless the debtor has sanctioned the proceeding, it is obligatory on the creditor in question to show proof that one or other of the acts of bankruptcy, as laid down in the Bankruptcy Act, have been committed. A decree of bankruptcy is pronounced by the court of law or in certain cases by a single judge in the court.

The debtor's property passes into the hands of trustees or of an official receiver, upon whom it devolves to administer it for the creditors; they have to choose and appoint the said trustees or receiver. The administration of the estate is controlled by a supervisor attached to the court. The trustees or the receiver likewise attend to the disposal of the estate, the assistance of the executive authority, however, being often requisitioned.

Whenever exception is taken to any claim lodged in connection with a bankruptcy winding up, the court undertakes to test its validity, unless terms of agreement can be arranged.

When the assets in an estate have been realized and the money accruing has been distributed, the adjudication of the bankruptcy takes place. The debtor's liability, however, for the claims on him remains, save in so far as they may have been satisfied. If the conclusion takes the form of a composition, it is only necessary for the debtor to discharge that. Composition with creditors apart from actual bankruptcy is unknown to the law.

(Cf. Part II, Synopsis of Trade and Industrial Legislation, Private Organizations.)

The administration of justice in Sweden enjoys a high reputation for impartiality, accuracy and absence of formalism. The chief criticism to be made against it is its dilatoriness.

An extensive reconstructive scheme is on foot as regards the administration of justice. J. Hellner, late member of the High Court of Justice, has been commissioned by the Swedish Government to draw up a report, after making necessary preliminary inquiries, as to the scope and character of a suitable reform in the conduct of judicial proceedings. There are already at hand similar reports respecting desirable recastings of the procedure prevelent at present in liberty of press and bankruptcy cases.

5. CHURCH AND RELIGION.

From a superficial point of view the Swedes appear to be one of the most homogeneous peoples in the world as regards church and religion; for there is hardly one in a thousand of the population who does not belong to the *Protestant* faith, while more than 99 % are members of one and the same communion, the *Swedish Lutheran Church*. On closer scrutiny, however, it will be found that a great many different religious tendencies prevail. Yet it is probable that no Christian people of the present time, with the exception of the Anglo-Saxon race, is imbued with such an ardent religious interest as are the Swedes.

Uppsala Cathedral.

Christianity was first preached in Sweden by *St. Ansgar* (829 A. D.), who bequeathed the charge of his mission in that country to his successors, the Archbishops of Hamburg and Bremen. During a later period (from the commencement of the eleventh century) missionary work in Sweden was pursued chiefly by Englishmen. Sweden, with her peasant population and her Vikings, was a difficult mission field. It was not till the 12th century that Sweden may be called a Christian country. The actual work of church organization began with the arrival of the Cistercians (Alvastra 1144); but this work, too, proceeded slowly owing to the stability of the purely Teutonic social structure. Sweden became a

church province in itself in 1164, when *Stephen*, a monk of Alvastra, was made the first Archbishop of Uppsala (the present "Old Uppsala" remained for another hundred years the Archbishop's see). The *Synod of Skänninge* (1248) marks the definite establishment of the Catholic ecclesiastical organization (celibacy; election of bishops by the cathedral chapter).

Statue of Olaus Petri, Stockholm.

The century next succeeding — Period of the Folkungar dynasty — was the most glorious period of the mediæval Swedish Church. Her wealth increased rapidly. The great cathedrals (Skara, Linköping, Uppsala) were then reared. Ecclesiastical ideals made then way into legislation though modified by Swedish common law. In the middle of the 14th century, *St. Bridget*, the most notable figure in the Scandinavian religious world during the Middle Ages, stepped forward with prophetic zeal to denounce the corruption that was insinuating itself into the court, the nobility, and the hierarchy. Her later work at Rome (where she died in 1373) on behalf of reforms within the Church and the return of the popes from Avignon, was Sweden's most noteworthy contribution in mediæval times towards the general development. Her order, the "Birgittines", established itself at Vadstena as its centre, and extended over Scandinavia and to Germany, England, and Italy. In the intestine strife of the Union Period the hierarchy participated eagerly, chiefly on the side of the Unionist party, a fact which contributed to the decline of the power of the Church at the beginning of the new period.

The first and greatest protagonist of the **Reformation** in Sweden was Luther's disciple, *Olaus Petri*, a preacher in Stockholm (1493—1552), who, in a series of pregnant writings (from 1526 onwards), partly polemical, partly constructive, spread the reform doctrines. He translated the New Testament in 1526; the whole Bible was published in 1541. *Gustavus Vasa* (1523—60) made use of the Reformation movement as the most powerful instrument in his work

of national revival, and after the Riksdag of Västerås (1527) he transferred the property and political power of the Church to the Crown. Through the influence of his statesmanlike Chancellor, *Laurentius Andreæ,* a certain liberty of action was, nevertheless, left to the Church in conjunction with the retention of the episcopate; an attempt of Gustavus (about 1540) to introduce consistorial government on the German Lutheran model was unsuccessful, and the original line of development was maintained by *Laurentius Petri* (archbishop 1531—73), a man revered as one of the Fathers of the Church. Æsthetic interests and Philippistic traditionalism impelled John III to introduce a semi-Catholic liturgy; against his son, Sigismund, a thoroughly Jesuitical reactionary, the Swedish people rose up under the lead of Duke Charles, and after the clergy, at the *Synod of Uppsala* (1593), had given the signal, took its stand as one man on the Confession of Augsburg, in spite of the Duke's Calvinistic tendencies.

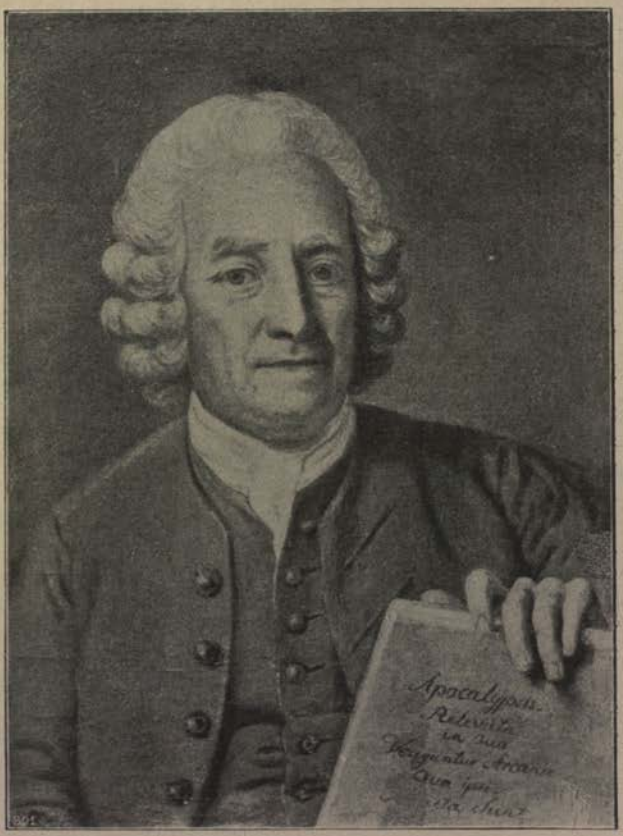
The Swedish people emerged from these contests inspired with a deep and youthful devotion for the Gospel of Christ, a devotion that, in spite of their numerical weakness and their poverty, gave them the power to vanquish, under *Gustavus II Adolphus,* the mighty league working for Catholic reaction, to defend, in Luther's own land, the work of Luther, and to preserve for mankind its most precious possession — an achievement that bears comparison with any other that the history of the world has to show.

The Evangelical cause was one of the foundations of Swedish politics; its position as a *bulwark of Protestantism* is evinced, for example, by the importance which the Swedish Embassy church in Paris assumed for French Protestantism, and by the Treaty of Altranstädt, 1707, by which Charles XII procured from the Emperor freedom in religion for Silesian Protestants. Political expansion broadened the operations of the Church; that of the Baltic Provinces was reorganized, and Luther's smaller catechism was translated into an Indian language in the New Sweden of America. In fact, her most glorious period the Swedish church had, like the State, in the 17th century. Influential bishops, *Johannes Rudbeckius, Laurentius Paulinus,* and others devoted intense energy to the fostering of the people's religion and morals and the raising of the standard of education. The highest representative body of the Church was the Estate of the Clergy assembled in the Riksdag (consistorium regni). During the second half of the century, orthodoxy became severer and more narrow-minded; the most notable developments of this period were in organization (the Ecclesiastical Law of 1686) — which made the Book of Concord an exposition of the creed of the Church and placed the Church in closer dependence than before upon the State —, the Book of Church Ritual, 1693, the Hymn-book, 1695; the most prominent men were bishops *Hakvin Spegel* and *Jesper Svedberg,* the latter of whom, under the influence of Arndt, prepared the way for the *Pietistic movement.*

This movement was brought over from Germany in the early decades of the 18th century, first in an older, moderate shape, later as an extreme of mystical emotion, which soon glided into the calmer waters of Moravianism. Its most prominent advocate was *Eric Tollstadius,* a rector in Stockholm, who died in 1759. Though the Church at first opposed it with legal proceedings and edicts (*konventikelplakatet,* the Conventicle Act, 1726), it achieved later a good deal of influence, directly and indirectly. A representative of *orthodox pietism* was the widely read and edifying author, A. Nohrborg, who died in 1767. Catechizing in the home was ordered by the Conventicle Act, confirmation was instituted, and the christianizing of the Lapps completed.

Rationalistic ideas entered into the literature of the 18th century with Olof von Dalin; they were the fashion under Gustavus III. They strongly influenced leading circles within the church, e. g., the eloquent bishop Lehnberg. Moral

degeneration among the educated classes came in their wake; this showed itself especially during the years of national humiliation and distress, 1808—10. Rationalistic ideas did not penetrate deeply among the people at large; religious movements of the people — the influence of pietism — appeared sporadically in the second half of the 18th century in the shape of the orthodox conservative *old school* (*gammalläsarna*) in Norrland, and several revivalist preachers about the end of the century.



Emanuel Swedenborg.

The great natural scientist, *Emanuel Swedenborg* (son of Jesper Svedberg, 1688—1772,) came forward in his later years as the revealer of the Bible's spiritual meaning; he was endowed with personal piety, the outcome of pietism and rationalism, and showed a strong inclination to occult spiritualism. His followers organized themselves in England after his death as a special community, "The New Church". Religious cravings among the educated during the period of rationalism often found an outlet in the tenets of Swedenborg and in Moravianism.

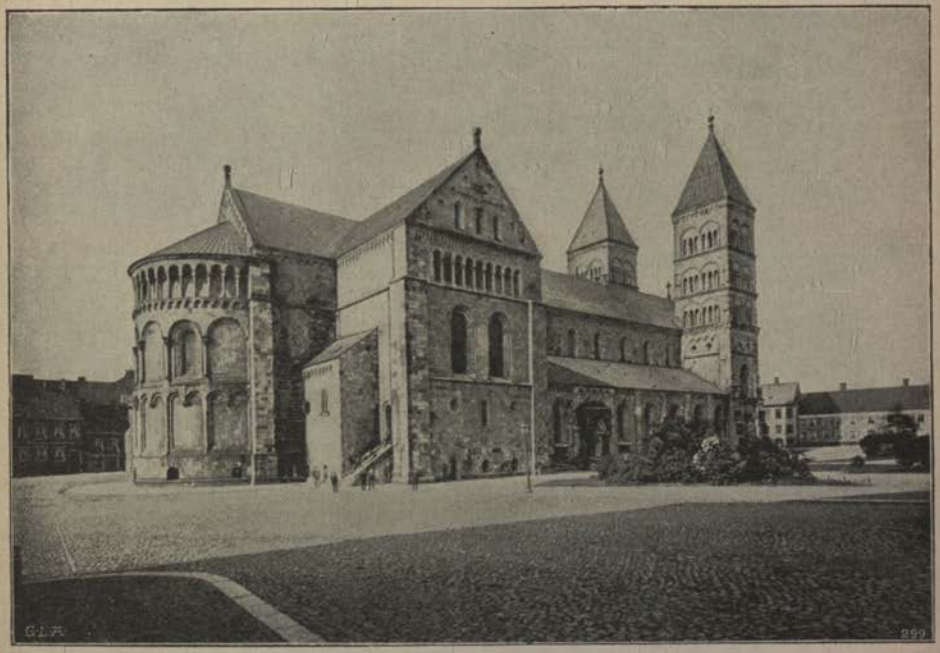
With the second decade of the 19th century *a religious awakening* began. Rationalistic ideas were combated in the literature of the new romanticists, on the philosophic side by *Erik Gustav Geijer* (1783—1847), who later became the

founder of the Swedish philosophy of personality from the starting point of religion. In the hymn-book of 1819 (which is still in use) by *Johan Olof Wallin* (1779—1839), Archbishop, the revival is clearly marked. *Henrik Schartau,* curate-in-charge of the cathedral in Lund (1757—1825), influenced the students of the university and became the founder in the south and west of Sweden of a noteworthy movement strongly tending in the direction of orthodox piety, called *Schartauanism,* best known for the emphasis it gives to lawfulness in private religious development ("the order of grace"), and to priestly authority (private confession). The influence of this movement was combined to a large extent with the high church tendencies of the theology of Lund about the middle of the century.

Parallel with the Temperance Movement, which also originated from a religious motive (P. Wieselgren), there sprang up, from about 1840, a powerful awakening, *"the new evangelism";* and among its leaders is to be noted *Karl Olof Rosenius,* a lay preacher in Stockholm (1816—68), who was influenced by old pietism and methodism. It emphasized personal conversion, the Christian's mutual fellowship in separating from the world and in working for God's kingdom; the ordering of the church and its cultural mission were on the contrary neglected. Lay preaching was carried on to a great extent. "Missionary associations" were formed and "mission" or "prayer houses" were built everywhere. The movement was organized, 1856, by The *National Evangelic Union (Evangeliska Fosterlandsstiftelsen),* which aimed at working in free association with the Church. After the middle of the century, liberal politics abolished the Conventicle Act (1858), and introduced dissenting legislation, and in connection with the abolition of the four-chamber Parliament (Estates), a new representative assembly for the church was formed — the *Convocation* (1863). Of local importance for the Finn and Lapp population in the northernmost frontier districts (also in Finland and Norway) is *Laestadianism,* named after the impassioned denunciatory preacher *L. L. Laestadius* (1800—61); it demands public confession and absolution in the face of the congregation of the faithful; a peculiarity is found in the ecstatic phenomena ("liikutuksia", or "movements") among the assembled people. From the National Union in 1878, under the lead of *P. P. Waldenström* (born 1838), a large party broke away, which disapproved of the State Church on the score of pronounced Congregational ideas (Waldenström had also some divergent opinions on the doctrine of atonement), and created a new centre for themselves in the *Swedish Missionary Association.* Though remaining in the Church as a matter of form, its members ("the Free-Church") as a matter of fact made a free church with their own management and the administration of the sacrament by their own preachers, as touching Holy Communion, while with respect to Baptism they hold different points of view varying from sympathy with Baptists to the employment of priests of the Church.

Great importance for the educated classes attaches to the native national *idealism* which *K. J. Boström* (1797—1866) developed on the basis of the ideas of Geijer. This philosophy, in a certain degree critical of Church doctrine, prepared the way for the more modern theological tendencies; on the other hand, as for example in the later work of *Viktor Rydberg* as poet and thinker (1828—95), it was arrayed in sharp opposition to the theories of materialists and enemies of religion, which widely pervaded literature from the beginning of the eighties and a little later spread to wider circles, too, as a result of industrialism and social democracy. A religious revival is now in full progress again; this may be traced in literature, in the feeling of the necessity of religion (Selma Lagerlöf and the later writings of Strindberg). It rises especially to view in *church work,* which is marked with increasing vitality ("Churchmanship of the Young", "the Uppsala Movement"). At the same time as new methods of work

are adopted, partly borrowed from the revivalist movement and partly adapted to the peculiar conditions of to-day, the bond is maintained with Luther and the earlier Swedish tradition. Stress is laid on the work of those that feel they have a call and the duties to the community. A religious concentration is combined with positions theologically new, and with the consideration of the great working resources of the National Church, to make Christianity effective in modern life.



Lund Cathedral.

The Constitution of the Church. The Ecclesiastical Law of 1686 is still in force, though with essential modifications and additions. In many points and in general the principle is retained that the Swedish Church is the people viewed from the religious side. The supreme governor of the Church is the *King*, who has Church affairs placed before him by the Minister for Ecclesiastical Affairs.

As far as possible the principle was maintained that the Swedish Church included the whole people. Foreigners, however, who belonged to other faiths obtained the right of practising their religion freely; those of the Reformed Faith in 1741, of other Christian confessions in 1781, and of the Jewish belief in 1782. The constitution enacts that "the king may in nowise constrain the conscience nor allow it to be constrained, but he must protect all and sundry in the free exercise of their religion, so far as they do not thereby disturb the peace of the community, or cause public offence". The consequences of this, with respect to the native population, have been that, since the fifties, the old restrictive legal enactments have been removed. Legislation obtained a practical completion by the *dissenting laws* of 1873. Now everyone is free, but not below the age of 18, to notify his withdrawal from the Swedish Church to another specified Christian

communion, and also foreigners who profess the Christian faith can, with sanction of the Government, form their own congregations. This right has been claimed less than one might have thought. Adherents of another Church who contribute to its support, if it is acknowledged by the Government, obtain, since 1908, a reduction on the rate due for the Swedish Church. The principle followed is that every Swedish citizen must support financially some religious body, and, likewise, must in some measure contribute to the upkeep of the Swedish Church, partly because it has a duty of public education by no means commensurate with that of any other religious community in the country, partly and especially because its officers have a number of functions which are quite secular, notably the keeping of the parish registers, all the more important because civil registration does not exist. Freedom in religion is so widely established that no one suffers infringement of his rights as a citizen on account of belonging to some other Christian faith, or to the Jewish faith. The King and his Ministers must "confess the pure evangelical doctrine", just as those who occupy positions as teachers of theology, or give instruction in Christianity. Persons who profess a foreign faith have no right to deal with questions that concern the care of religion, its instruction, nor offices within the Swedish Church. Their children are free from compulsory religious instruction in schools, on the condition that their proper guardians provide for their receiving due instruction in that subject. Religious freedom is not established completely, inasmuch as the law does not allow the introduction of orders of monks or nuns nor of monasteries within the Kingdom, it takes no cognizance of sheer negation of faith, nor, finally, does it permit public exercises in religion of a heathens type.

Freedom of congregations has practically been an accomplished fact ever since the abolition of the Conventicle Act in 1858. Parish limits are done away, inasmuch as no obstacle is placed in the way of the employment for Church ceremonies of any priest who is considered suitable, if he is willing. Civil marriage has been optional since 1908.

For ecclesiastical legislation is requisite the unanimous decision of Government, Riksdag, and Convocation, except in liturgical questions, when only the Government and Convocation co-operate.

Convocation, instituted in 1863 (to replace the Estate of the Clergy separately represented in the four-chamber parliament, consisting of the four Estates of the Realm — abolished in 1866), consists at present of 30 of the clergy (among them the 12 bishops and the Pastor Primarius of Stockholm, as ex officio members) together with 30 laymen representatives, elected indirectly from the dioceses by those entitled to vote in the Vestry Meeting. Convocation has met once every five years since 1868, and in 1909 and 1910 in addition.

For the purposes of ecclesiastical *administration*, Sweden is divided (beg. of 1914) into 13 *dioceses*, subdivided into 188 *deaneries*, each presided over by a Dean. The number of *livings* is 1 402, some of which include more than one parish, the total number of *parishes* being 2 500. At the head of every diocese there is a Bishop, supported by a Chapter, otherwise called "Consistory". A *Bishop* is selected by the King from among the three candidates who, in the election by the chapter and clergy of the diocese, have received the largest number of votes. The bishop of the Uppsala diocese, for whose election special regulations are in force, has the title

of *Archbishop*, and among the bishops he is "primus inter pares" and is ex officio president of the Convocation. A bishop alone has not the right of final decision; he shares it with the other members of the chapter. Against the decision of a bishop or a chapter, appeal may be made to the higher courts of law or to the Government.

The Chapters, also called Consistories, are composed of the rector of the chief parish in the cathedral city (the Dean), and the majority of the "lectors" (principal masters) at the State secondary school there; in the universities, however, the professors in theology take the place of the latter. In the chapter of Gothenburg, two other rectors of the town also have seats. The city of *Stockholm*, really belonging to the diocese of Uppsala, has, notwithstanding, a consistory of its own, composed of the rectors of the city, (of whom the one in the Storkyrko-parish is "Pastor Primarius"), besides a so-called Court consistory for the Court and garrison parishes.

Clergymen in the Swedish Church are educated, after passing the university entrance examination (studentexamen), at the two State universities (Uppsala and Lund), where their courses of study are tolerably long (on an average 5 years), and a preparatory examination must be passed in the faculty of philosophy. Supplementary clergymen are sent out by the chapters as assistant curates, or priests in charge, to parishes where their help is needed. The regular clergymen are of two classes: *Rectors* (kyrkoherdar), one in each living, and *Perpetual Curates* (komministrar), constituting a class of assistant clergymen with fixed appointments, especially to be found in such benefices as are very large, or consist of more than one parish.

For the *appointment* of regular incumbents, the following is the procedure. A vacant living is thrown open to application by the priesthood of the diocese. After examining their merits, the cathedral chapter proposes three of the applicants between whom the final choice lies. These preach on trial in the parish church, after which a vote is taken. At this election, every man or woman belonging to the Swedish Church, and entitled to a communal vote, (not juristic persons) has *one* vote. So also has the wife of a man enjoying communal franchise. At country elections the votes may be recorded by proxy, but no one may act for more than *one* voter. The candidate who polls most votes at an election is nominated by the chapter. If the parish is not content with those proposed by the chapter, at the election of a rector a "fourth man" can be invited irrespective of his diocese, when a sufficiently powerful majority is obtained to demand it. In this case, the election having been concluded, the matter goes to the Government. In about 80 livings the incumbent is appointed by a patron.

The old and very disproportionate conditions of remuneration are in process of being replaced by a new scheme, laid down by the law of December 9th, 1910. Tithes are abolished, and instead of them, the state pays a yearly contribution to the Church funds, under the official control of the State for church purposes, and these funds receive additional contributions from other sources. Out of this a part of the remuneration of the priesthood is discharged. This is really made up partly of the income derived from church farms (glebe), hereafter to be leased under the direction of the authorities (no priest is allowed to farm his own glebe), and partly of contributions from the parish. The fixed stipend of

a rector amounts to 4 000 kronor, that of a perpetual curate to 2 600; this is supplemented according to the acreage and population of the benefice. The largest stipend received by rectors, with a few exceptions, is 8 000 kronor, and by perpetual curates 5 000 kronor. The latter, if in the country, and all the rectors, have free residences on the glebe. Rural incumbents have a slight addition for travelling expenses. The resources of the Church fund are calculated to cover a number of payments on retirement. There have been no pensions, hitherto, for incumbents themselves, but for their widows, and for their children if unprovided for. These have been defrayed from a special reserve fund, founded by the payment of a year's income from all the regular church appointments in the kingdom, and maintained by compulsory contributions. The salary of a *bishop* is officially reckoned at from 10 000 to 15 000 kronor, and of the archbishop at 16 000 kr.; these amounts are in some cases exceeded.

The parish (church community, congregation) early came to form the basis of secular communal life, too. Nowhere within the compass of the Lutheran Church has the influence of the parishioners in church affairs been of old greater than in Sweden. In church and school questions the *Vestry Meeting* (kyrkostämman) decides; the Rector presides, and every member of the civil commune who, as such, possesses a communal vote and belongs to the Swedish Church (including women and juristic persons) has the right of voting here, too, in accordance, however, with a graduated scale, i e. in proportion to the sum each pays in rates (with certain restrictions; maximum 20 votes). The meeting elects two standing committees for four years, the *Vestry Board* (kyrkorådet) and the *School Board* (skolrådet), over both of which the Rector presides. The Vestry Board has to look after the concerns of the church, to administer certain church funds, and exercise church discipline. The close connection between church and school in Sweden is a characteristic feature; moreover, the high standard to which popular education has been brought in the country is largely owing to the efforts of the clergy.

In bringing about this result the *Catechetical Meetings* (Husförhör), which have no counterpart in other countries, have also been instrumental. As early as 1686 the Ecclesiastical Law enjoins on the clergy to supplement their sermons on the catechism and their interrogations in church by visiting their parishioners at home, one after the other, in order to examine them in religious knowledge. During the 18th century this duty and the obligations of the parishioners with regard to attendance were more precisely defined. At the present time, these catechetical meetings have in many parts passed into devotional services; in most towns they have been abandoned.

The clergy in Sweden have from olden times kept a great number of *Registers* of the population (amongst others those which have formed the basis, for a century and a half, of the famous statistics of Swedish population). These registers were instituted partly for the requirements of the churches, but also largely for those of the civil government. The labour of keeping these in large parishes is somewhat onerous, and it is carried out without extra remuneration.

A country *parish* in Sweden has an average area of about 190 square kilometers (in the six northernmost läns of about 1 000 sq. km, in the rest of only about 75). In North Sweden, parishes are often enormously large; that of

Jokkmokk has an area of over 18 000 sq. km, or more than that of the whole of the Kingdom of Saxony. In 558 livings the population amounts to 2 000, in 556 to 5 000, in 197 to 10 000; of the remaining, twelve have over 25 000. In Stockholm especially, many parishes are exceedingly populous, with as many as 50 000 parishioners and upwards. It is intended, however, to divide up the large parishes, both in Stockholm and elsewhere. The total number of *clergymen* in Sweden is about 2 800, or one to 1 800 inhabitants, a proportion which may be termed about normal for a Protestant country. In North Sweden, however, the relative number of clergymen is considerably less.

During the period 1900—04 the *expenditure* of the parishes in Sweden on the Church and the clergy amounted to 9·08 million kr. a year, t. e. 1·71 kr. per inhabitant. The value of the churches themselves is estimated at 95 million kr.

Creed and Cultus. The "pure evangelical doctrine" which the Swedish Church professes is laid down, according to the Constitution of Sweden, as being "that which was accepted in the unalted Augsburg Confession and set forth in the resolution arrived at by the Uppsala Synod of the year 1593". The Ecclesiastical Law, on the other hand, mentions the whole of the Book of Concord as an exposition of the accepted doctrine.

The Neological *Handbook* of the year 1811 was replaced in 1894 by a new one, which more faithfully preserves the Lutheran tradition; in connection therewith the choral part of the service has become richer and more varied. In 1860 two fresh series of texts for sermons for the round of the year were ordered to be used together with the old ones. *Wallin's Hymnal* (of 1819) is still in use. Proposals for its revision have often been made: the last one to be made was brought forward by a Hymn-book committee in 1911.

The *Church Bible* is still that of Charles XII (of the year 1703), but ever since the end of the 18th century, a work of revision has been in progress; this is now approaching completion; a provisional revised translation of the Old Testament was issued in 1903, and of the New Testament in 1912.

The revival of interest in religious life during the last few decades, in conjunction with the interest for history and the fine arts, has resulted in great activity in the restoration of churches, more especially of cathedrals and in the erection of new church buildings. Moreover, by procuring better and more tasteful altar-cloths and other altar decorations, by arranging liturgical services, and by taking steps to improve the quality of church-singing, the endeavour has been made to awaken attention to the richness and beauty of the Lutheran services.

Religious Life in the Sweden of our day presents a living and varied picture. During the 19th century, the movements and currents in religion have called forth a lively activity both within and without the Church.

The Sunday *services* of the church (mass; at the great festivals, matins; in towns, evensong) are very disproportionately attended in various districts. In the south a "church-going zone" stretches from the diocese of Gothenburg over Västergötland and Småland. In Värmland and the districts round the Lake Mälaren the attendance is least, on the whole. In certain parts of Norrland it improves again. The average for the whole country will be about 10 % of the population, and at the great festivals many times as great. Attendance at the Holy Communion has fallen with the disappearance (in most parts of the country) of the previously predominating force of custom in this respect.

Every attempt is made to organize *voluntary church work* according to existing institutions and the increasing utilization of layman activity is aimed at. Within the parochial areas, efforts are directed towards awakening a sense of mutual responsibility and mutual interest in church matters ("parish movement"). In dioceses "synods" are arranged and voluntary "diocesan boards" constituted, in several places. As a central organization — more supporting than directing in its character — the *Church Voluntary Work Board* (*Diakonistyrelsen*) was formed to assist all this activity in 1910. Sunday-schools and children's services are organized. A *Young People's Church movement* is being strongly developed, largely as a superstructure on the preparation of confirmands, to the advancement of which assistance has been afforded by the student Christian movement ("the Young People's Crusade"); corps of "church volunteers" have been formed, from among Christian students, for this and other purposes (e. g., activity in industrial centres). An endeavour to meet the unparallelled increase in the church's tasks is being made in the great cities, by means of the division of parishes, the provision of new places of worship, the increase of the number of priests, etc. *The Society for the Promotion of Church Pastoral Work* has been operating to this end in Stockholm since 1893.

The old spheres of church activity in the prisons, hospitals, and homes for the sick, and in the field of poor-relief, have been extended, and the work is in progress to enable her to fulfil her growing tasks. A new field has been opened up in the spiritual care of conscripts. The scheme of training for laymens' work has been borrowed from Germany. The *Institute of Deaconesses* at Ersta, in Stockholm, founded in 1851, has now nearly 400 "sisters", and the *Samaritan Home in Uppsala*, active since 1893, has 80 deaconesses and "congregation sisters". In 1912 a third institution of the same kind started operations in Härnösand. There has been an *establishment for the training of deacons* since 1898, which is now at Stora Sköndal, outside Stockholm; it has trained some 50 deacons.

The Young Men's Christian Association, and *The Young Women's Christian Association* are treated in a special article in the following. The *Christian Student Movement* in its present form (with about 500 members) has developed out of the Scandinavian Christian student conferences, dating from 1890; in connection with which there is a school-boy and a seminarist movement.

The *National Evangelic Union* displays great activity in the spread of literature; it is the greatest religious book-depot in the country, and has in its employment about 200 travelling agents and preachers; affiliated with it are over 300 missionary associations and a young people's movement ("the League of the Young"); its missionaries and preachers are trained at the Missionary Institute in Johannelund.

About 1 300 congregations with 94 000 members are incorporated in the *Swedish Missionary Association*, divided into 14 districts, and served by about 550 regular preachers trained at the Mission School at Lidingö. Here, too, a young people's organization is to be found — Yong People's Branch of the Swedish Missionary Association (Svenska missionsförbundets ungdom).

The *Salvation Army* in Sweden has 221 corps, and 4 200 officers and non-commissioned officers; it has established 79 institutions for social work.

Together with certain smaller foreign congregations, consisting of the *English Episcopal*, *French Reformed*, and *Greek Catholic* churches (with 300 members altogether) there have existed in Sweden, since the last third of the 18th century, a number of widely scattered reformed sects, viz., *Baptists*, 53 000; *Free-Baptists*, 3 200; *Methodists*, 17 500; *Catholic Apostolic*, or Irvingites, 900; *Mormons*, 1 900; and *Adventists*, 400, etc. Of these, only the Methodists and the Catholic Apostolic church have legally seceded from the Swedish Church, and formed their own community acknowledged by the State. Another such is the "*New Church*" or

Swedenborgians, comprising about 300 members; although founded by a Swede, it has the majority of its followers in England and America (7 000 to 8 000 in each country). Only *Roman Catholics* (circa 2 600) and *Jews* (4 400) are to be mentioned as not professing the Protestant faith.

This large number of religious groups and sects also pursue an active, even though very scattered **Foreign Missionary activity.** The contribution of Sweden to such work in non-Christian lands comprises about 430 mission-workers and involves an expenditure of 1·5 million kronor a year. The *Swedish Church,* whose agency for this purpose is a Mission Board elected by Convocation, works in South Africa and India, with 58 Swedish and 278 native missionaries among 7 700 native Christians; the *National Evangelic Union* in East Africa and India, with 98 Swedish and 239 native mission workers among 3 700 native Christians, the *Swedish Missionary Association* in the Congo, China, East Turkestan, and Caucasia, with 130 Swedish and 263 native missionworkers among 6 000 native Christians. There are, moreover, several smaller societies: the *Swedish Mission in China, the Sanctification Alliance,* which also carries on work in the native country, the *Scandinavian Missionary Alliance,* etc.

Among others, the *Swedish Missionary Society* works among the Lapps and is one of the oldest in the country, having been founded in 1835. Much is done to provide religious care for sailors in foreign harbours, nor are the Jews forgotten.

A lively connection of a religious kind exists with the numerous Swedish emigrants in the **United States.** There, as at home, they are divided into several different communities and sects. The majority of those interested in religion — and many stand outside every religious community — have formed the Swedish Lutheran *Augustana Synod,* which has 1 130 congregations, 640 ministers, and 260 000 members. It possesses 10 establishments for higher education and various charitable institutions. Its ministers are trained at the "Augustana College and Theological Seminary" on Rock Island, Ill., with 35 teachers and 700 pupils. The *Swedish Missionary Association* has also numerous supporters among the Swedes in America; many have joined the reformed sects, especially the *Baptists* and *Methodists.*

IV.

EDUCATION AND MENTAL CULTURE.

In former days the exponent of *education* was the Church. This was quite natural at a time when scientific education as a whole did not extend much beyond the field of theological education, and when further the teaching profession was still so undeveloped that it could be conveniently combined with the priestly calling. In the course of the ages, however, science has conquered one domain after the other, the theological education has lost its former universality and assumed, relatively speaking, a more and more special character. Furthermore, owing to the development of pedagogics, the demands made on the teaching profession have become more rigorous, so that the exercise of that profession and the management of eductional matters in general now require special training and expert knowledge. Owing to these circumstances, among others, the Church as such is no longer entitled to be regarded as the legitimate exponent of education and science, and the course of development seems consequently to trend in the direction of *separation of the Church and the School.*

The Church and the School in Sweden at present range under the same Department, namely *Ecklesiastikdepartementet.* However, a Committee appointed by Government has proposed in a Report which it has recently issued that the "Ecclesiastical Department" shall have ecclesiastical matters removed from its purview, and be reconstituted as a department for General Education, Science, and Art. — Until a short time ago the Chapters, (*domkapitlen*) composed of priests and laymen, were the local boards for the administration not merely of ecclesiastical matters, but also of matters relating to the secondary schools and the elementary school system. In 1904, however, was established a *central board for the secondary schools,* the result of which was that the powers of the Chapters as regards these educational institutions were very considerably curtailed. And in 1913 was established a *central board for the elementary schools,* whereby the latter also were placed under the administration of expert laymen.

In former days public education was intended first and foremost for the training of priests and State officials, and in general for the educational needs of the higher classes. The question of the organization of the "learned school" was then the leading educational problem. According as the democratic spirit has permeated society, and the influence of the lower ranges of the community on the administration of the affairs of the country has increased, the attention devoted by the State to education has extended even beyond the wide field of general national education. To afford the great majority of the Swedish people better facilities for participating in the benefits of intellectual culture is simply a link in the general social movement for uplifting the people to a higher plane, economically, morally, and intellectually. Much has been already accomplished in this regard, and the *general level of education in Sweden* may be claimed to be a very high level. To continue along the course thus embarked on, while duly providing for the interests of higher education, seems likely to be the distinguishing feature of educational policy in the days to come.

In olden days, when children grow up under the parents' eyes and shared their labours, an ample share in their up-bringing was committed to the *home*. Owing to the new social conditions that followed in the train of the industrial revolution, the importance of the home as an educational factor has declined, and the demands made on the educational work of the schools has correspondingly increased. To refashion and expand the school system so that the school shall be able to cope with these new demands, will doubtless be one of the most important educational problems in times to come.

Education in earlier times was chiefly a matter of learning by rote and of book-conning, and was imbued as a whole with an abstract and arid formal character. The realism that has penetrated into so many other spheres of culture has also revolutionized education, which now aims far more than before at self-activity, at direct observation, and concrete practical application of theoretical knowledge. This transformation is characteristic of all education in Sweden, of general education as well as of special training, of education in the lowest stages as well as in the highest. It may be assumed that the reform movements in education will aim at continued development along the same lines, and that it is in this way that the manifold demands for a *practical education* will be satisfied, as far as it is feasible, and as far as it is right, that those demands should be satisfied.

Twice in the history of education has Sweden made contributions of worldwide importance to educational reform; one of them the *Ling* system of gymnastics, the other *Salomon's* method of pedagogic sloyd, both of which attest the great interest that Sweden has displayed in *physical education.*

Higher intellectual culture is fostered and cherished by the Swedish

people. Great have been the sacrifices in the service of cultural aims willingly made both by private persons and the State authorities. Sweden possesses, in proportion to her population, a large number of universities, and her higher educational system as a whole is well developed. Scientific work exercises a powerful attraction on Swedish youth, and the endeavours of poor students to acquire scientific training are facilitated in various ways.

By reasons of the circumstances thus touched on, *scientific production* in Sweden, considering the population of the country, has been remarkably abundant, and the employment of a scientifically trained staff in the varied fields of culture is perhaps more extensive than in any other country. There are, however, divergent opinions as to whether the national energies thus consumed are being utilized in a manner accordant with wise economy.

The change in the method of teaching above alluded to has a certain, and a rather close, connection with a change that has taken place in scientific method. The constructive, or deductive, character that in former days characterized science in most civilized countries was in Sweden enhanced by the influence of the brilliant Swedish *speculative philosophy* during the past century. Nowadays it is the inductive methods inaugurated by the natural sciences, and based on exact and minute investigation, that dominate scientific work in most domains, and this closer contact with reality has exercised a renewing and stimulating influence on scientific research.

Sweden possesses an ancient reputation for her contributions to *natural science*. Nowadays Sweden not merely with regard to the natural sciences and their application, for example, to *medicine*, but also as regards *history* and *philology*, might be said to assume a frontrank position among civilized countries.

Among publications whose object it is to present in a popular form the results of scientific research may be mentioned the encyclopædia called *Nordisk Familjebok*, which in content as well as volume may fairly be compared with most works of a similar kind published by larger countries.

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1. ELEMENTARY EDUCATION.

In the middle of the seventeeth century, thanks to the efforts of the priests, the people were able to read in many parts of Sweden. However, it was not till the *Ecclesiastical Law (kyrkolagen) of the year 1686* that definite regulations were issued with regard to public elementary education, which thus became a State concern, and not merely a Church concern.

This Ordinance enacted that the priests should "with all diligence take heed that children, boys and girls, should learn to read in book and see with their own eyes what God bids and commands in His Holy Scriptures". The parish clerks *(klockare)* were enjoined to teach them to read, the priests were to instruct youth in the scriptures and to hear and examine them. A certain amount of knowledge was required for admission to the Holy Communion and for permission to marry. The result was a wider dissemination of the ability to read and an increased acquaintance with the elements of the catechism. However, as progress in this respect depended mainly on the personal influence of the priests, the progress made was in many cases small.

In the course of the 18th century the education of the people slowly advanced. The chief lever was the religious interest, but the desire to improve agriculture and other occupations by the enlightenment of the people also contributed to that advance. Schools were established in several places. However, no extensive organized scheme of public elementary education was set on foot.

Elementary School Buildings in a Rural District, Billinge, Skåne.

During the nineteenth century the conviction gradually ripened that schools ought to be erected in all Communes, and be equipped with competent teachers, and that the education of the people ought to be made *compulsory*. After a period of struggle, these principles gradually made way. *The first Public Elementary Education Statute in Sweden* was promulgated in 1842. This Statute prescribed that in each parish there should be at least *one* school with a teacher of recognized competence. The foundation thus laid by this Statute has been built on further. The aim of public elementary education since 1842 has been to develop it in the direction of the goal then set up. Two names merit to be remembered pioneers, those of Count *Torsten Rudenschöld*, a man of ideas and an ardent reformer, who did much for the improvement of school administration

and school teaching during the period of reorganization which followed the Statute of 1842, and *F. F. Carlson*, who, in the capacity of Minister for Ecclesiastical Affairs from 1863 to 1870 and from 1875 to 1878 carried into effect, with extraordinary vigour and far-sightedness, sweeping and profound legislatory reforms. The Public Elementary Education Statute now in force was promulgated in 1897.

Elementary School Buildings, Parish of St. John, Stockholm.

The Public Elementary Schools in Sweden are in the first place a matter devolving on the *parish* (kyrkoförsamling). But they have considerable grants in aid from the State, and they are subject to the inspection of the authorities of State and Church. Every *parish* (församling) constitutes as a rule a *school district*, the legislatory authority of which is vested in the *Vestry Meeting* (kyrkostämman).[1] The executive is the *School Board* (skolråd), consisting of the rector of the parish in the capacity of President and at least four other members (men or women) elected by the Vestry Meeting. One of the teachers, male or female, in the district schools has the right to be present at the deliberations of the Board, but without a vote. The President of the Board shall summon the staff of teachers to deliberation with regard to the school business of the district at least once a year.

[1] For certain towns there are special regulations, as to which see in the following (Local regulations in certain towns).

Drawing-hall. Gothenburg Elementary Schools.

In each school district there shall be at least one elementary school, which should, if possible, be a stationary school.[1] As a rule, the elementary school is divided into two departments, namely the *infant school* (småskolan) for beginners and the *elementary school proper* for more

TABLE 60. *Number of Elementary Schools.*

Annually	Entire Number of Elementary Schools					Thereof Movable Schools				Percentage of Movable schools
	Higher elementary schools	Elementary schools	Smaller elementary schools	Infant schools	Total	Elementary schools	Smaller elementary schools	Infant schools	Total	
1886	11	4 323	1 128	4 597	**10 059**	821	532	1 846	**3 199**	31·8
1886—90	11	4 433	1 191	4 713	**10 348**	803	540	1 803	**3 146**	30·4
1891—95	12	4 633	1 382	4 891	**10 918**	745	579	1 640	**2 964**	27·1
1896—00	15	4 872	1 613	5 143	**11 643**	673	668	1 405	**2 746**	23·5
1901—05	18	5 511	2 066	5 728	**13 323**	525	755	1 121	**2 401**	18·0
1906—10	25	5 967	2 309	6 184	**14 485**	319	722	823	**1 864**	12·9
1910	31	6 151	2 397	6 352	**14 931**	240	717	722	**1 679**	11·2
1911	32	6 204	2 447	6 434	**15 117**	220	728	670	**1 618**	10·7
1912	33	6 258	2 510	6 544	**15 345**	204	722	642	**1 568**	10·2

[1] By a "stationary" school is meant one in which the teaching is imparted the whole year round at the same place; a "movable" school signifies one which ambulates between two or three different localities at different seasons of the year.

advanced scholars. Besides this, in many school districts "*continuation courses*" are arranged for scholars who have passed through the actual school.

The said "continuation courses" are arranged either in the form of "*continuation schools*" (fortsättningsskolor), with a short term of instruction (at least 180 hours a year) for the benefit of scholars who have passed through the complete course of instruction at the actual school, and have already entered into some trade or occupation; or else they constitute *a higher division of the elementary school*, with a longer term of instruction, extending over from two to three years. A higher division of this kind is arranged in many towns.

Another form of school started in 1858 and afterwards much improved is the *Higher Elementary School*, the object of which is to give children who have passed through the elementary school proper an opportunity for improving their general education and obtaining practical training. The demands made on the capacity of the teachers in these schools are much more rigorous than those made on an ordinary elementary school teacher. Most of the Higher Elementary Schools are in the country, often serving several school districts.

A Royal Decree of the 29th October 1909 called into existence yet another form of higher elementary school, designated *communal intermediate school* (kommunal mellanskola). The aim of this school is to impart of a general education of the same standard as that of the realskola. These intermediate schools have four classes above the elementary school proper and are under the superintendence of the Royal Board of Secondary Schools.

The *People's High School* (folkhögskola) is an educational establishment of a peculiar kind, intended for young men and women. These schools do not really come under the head of elementary education, and they are not subject to

Tug of War in the Play-ground. Gothenburg Elementary Schools.

the supervision of school board or diocese boards. But as the State contributes to their maintenance, they fall to be mentioned at this place. The aim of these schools is to impart instruction which will be useful for men and women in their future calling. The teaching is arranged on university lines, in the shape of lectures and studies under the guidance of some eminent teacher: there are no set books or regular class lessons. The first People's High Schools were founded in Sweden in 1868. At present there are 44 of them in existence.

Besides the kinds of schools already mentioned, there is yet another kind, which must be regarded as a temporary expedient, namely the *Smaller Elementary School* (mindre folkskola), with a more limited course of instruction and teachers of lower qualifications. These schools are intended for children living in regions remote from a regular elementary school.

Government of the Elementary Schools. The elementary schools are parish institutions, grants in aid of which are made by the State (see in the following). Thus the supervision of the elementary schools is naturally in the hands of the *parish* on the one hand, and the *State,* on the other.

The parish authorities are the *Vestry Meetings* and the *School Boards.* The Vestry Meeting decides on general matters of school administration, on the number and kind of schools within the district, and so forth, also granting the necessary means for the purpose. The School Board is the executive, which superintends the actual working of the school machinery. In certain towns there are special regulations as to the mode of this superintendence (see in the following). The School Board may, if the Vestry Meeting make the necessary grant, appoint to assist them a *superintendent* (överlärare), and (or) a school inspector. There are school superintendents (in some places called *head teacher,* förste lärare) in most of the towns and in a number of populous rural districts. The number of superintendents is at present 156. There are municipal school inspectors in 24 towns.

The State authorities are the *Government school inspectors,* the *Chapters,* which are district boards, and the *Royal Board of Elementary Schools,* which is the central supervisory board. By a Royal Decree of the 9th October 1914 the Government school inspection has grown more efficacious. After this the Government school inspectors are not allowed to hold another service, nor Commission, unless the Elementary Schools Board finds that the same Commission gives no cause to impediment to his office. As the inspectors then generally are obliged to exclusively attend to their office, larger districts are allotted to them, and the number of districts are reduced from 46 to 34. The inspectors are appointed by the Government. If an inspector has complaints to make about the management of the school in his districts, he brings them before the School Board, suggesting means for remedying the defects. Should the subject of complaint still remain unredressed, he may report

the case to the proper Chapter. The Chapters are, as has been mentioned, district boards, one for each diocese. Their chief duty is to examine into and determine on cases of appeal from the decisions of the Vestry Meetings and the School Boards, and to issue regulations for the various school districts in the diocese. The Royal Board of Elementary Schools (Folkskoleöverstyrelsen), which was created by an Act of 1913, and came into operation at the ingress of the year 1914, is the central authority for the elementary schools all over Sweden. The Elementary Schools Board consists of a Director in Chief, four members, and the requisite number of officials. It ranges under the *Department for Ecclesiastical Affairs.*

Teachers. There are two distinct classes of *teachers* in the elementary schools, namely the *elementary school teachers proper,* (folkskollärare), and the *infant school teachers* (småskollärare). The former are either men or women, the latter almost without exception women. The male and female teachers have the same legal rights and duties. In some places there are special teachers for drawing, singing, gymnastics, and sloyd, but in the great majority of schools these subjects too are managed by the ordinary elementary school teachers. There are specially trained women teachers for household economy (which practically means "cookery").

To become an elementary school teacher, one must pass an examination called *folkskollärareexamen.* This examination is taken from one of the State training colleges for elementary school teachers, or at one of the private institutions of the same kind that have been officially authorized to hold this examination.

TABLE 61. *Number of Teachers and Scholars in the Elementary Schools.*[1]

Annually	Mean population	Teachers	Per 10 000 of pop.	Teachers		Thereof in the elementary schools[2]		Scholars	
				Men	Women	Men	Women	Total number	Per each teacher
1886	4 700 000	12 605	26·8	5 293	7 312	4 223	1 356	677 939	53·8
1886—90 . .	4 742 000	13 065	27·6	5 362	7 703	4 332	1 471	685 655	52·5
1891—95 . . .	4 832 000	14 296	29·6	5 516	8 780	4 535	1 881	706 903	49·4
1896—00 . . .	5 032 000	15 907	31·6	5 634	10 273	4 778	2 438	737 429	46·4
1901—05 . . .	5 214 000	17 876	34·3	5 951	11 925	5 131	2 745	753 379	42·1
1906—10 . . .	5 406 000	20 523	38·0	6 286	14 237	5 500	3 588	778 965	38·0
1910	5 499 000	21 636	39·3	6 396	15 240	5 602	4 013	791 899	36·6
1911	5 542 000	22 148	40·0	6 485	15 663	5 689	4 157	796 583	36·0
1912	5 583 000	22 641	40·6	6 520	16 121	5 743	4 306	803 577	35·5

[1] The figures refer to elementary schools of all kinds (see Table 60). — [2] In the elementary schools proper (see Table 60, third column). Instructors are included in the previous columns, but not in these two columns. The total number of instructors in 1912 was 1 865, namely 493 men and 1 372 women.

State Training Colleges. At the present time there are 15 State training colleges for elementary school teachers, notably 9 for men and 6 for women. Besides this there are two equally qualified private training colleges for women.

In order to give the future teachers actual practice in school work, the Training College is connected with a "*practising school*" (övningsskola), comprising an infant school section, an "elementary school" section, a higher section, and, if possible, also a "continuation school". The scholars belonging to the practising school are boys as well a girls.

Tamburine Game in the Play-ground. Gothenburg Elementary Schools.

The teaching staff of a Training College consists of a *rektor* and *assistant teachers* (adjunkt), the number that is fixed to each training college. Moreover instructors are appointed in drawing, copybook writing, music, gardening, gymnastics with games and sport, also practice in the use of arms, and sloyd for male pupils, for female pupils housework containing sloyd for women and household economy. There must also be the requisite number of teachers for the practising school. In a Training College for Women at least one of the *adjunkts* must be a woman. The teachers of gymnastics with games and sport, of sloyd and household work in these colleges are likewise women, and women are preferred for instruction in drawing and music. Women are likewise appointed to teach in the practising school. In regard to qualifications, salaries, and pensions the teachers at the Training Colleges are substantially on the same footing as the teachers in the secondary schools.

Admission. To obtain admission to the Training College, according to the late regulative of the 3 july 1914, one must have attained the age of 16 and have passed an examination in the prescribed subjects. In certain subjects is a complete elementary school course sufficient, in other subjects is more required.

Preliminary to the admission one must be examined by a doctor with regard to the constitution. The number of pupils, that may be admitted into a class or section is at most 30. The teaching at the Training Colleges is gratuitous. Scholarships are moreover awarded to clever and deserving pupils who have no means of their own.

Course of instruction. The course of the Training Colleges lasts four years. The subjects are: Scripture (on a general average 8 % of the total number of hours of teaching), Swedish (9 1/2 %), Mathematics (8 %), History (5 1/2 %), Geography (4 %), Knowledge of Nature and Hygienics (5 1/2 %), Physics and Chemistry (3 1/2 %), Economical science (2 %), Foreign languages, German or English (4 %), Psychology and Pedagogics (5 1/2 %), Drawing (5 1/2 %), Music (5 1/2 %), Gardening (3 %), Sloyd (7 %), Gymnastics with games and sport (16 %), Practical Teaching Exercises (5 1/2 %). The Training Colleges for Women have the same number of hours of teaching in the special subjects except Household Work (9 1/2 %) and Gymnastics with games and sport (13 1/2 %).

Sloyd-hall for Metal Work. Gothenbury Elementary Schools.

To each Training College a doctor must be appointed who has the superintendence of the health and sanitation in the college, also he is bound to further the efforts to the physical care and training of the pupils. Likewise he is obliged to take gratuitous care of the pupils who call him in consult. At the beginning of every school year the pupils must be examined by the doctor with regard to their health and their physical development. If no contrivance of shower-bath or plunge-bath is found in the college, it must be otherwise managed, if possible, so that the pupils can have a bath.

Training Colleges for infant school teachers (småskoleseminarium). The examination for infant school teachers is taken at special training colleges, that are erected either by the State, or by the county councils (landsting), or by private persons who have been officially authorized to this. These Colleges are under the superintendence of the Elementary Schools Board and besides under the control of an inspector who is appointed by the same authority. As teacher no one may be employed, unless the Elementary Schools Board has no remark on his fitness. A training college of this kind must be connected with an infant school for the purpose of giving the pupils practice in teaching.

There are two State Training Colleges for infant school teachers, one for the training of teachers, male and female, who have to know the Lapp language, the other for teachers in the Finnish-speaking districts of Sweden. The course of instruction lasts three years. At the present there are 27 other Training Colleges for infant school teachers, intended for the training of women teachers in infant schools. The majority of them have a two years course, the shortest allowed course being eight months.

The subjects are: Scripture, Swedish, Arithmetic, History, Geography, Natural History, Pedagogics, Copybook writing, Drawing, Singing, Gymnastics, and Sloyd. The examination is superintended and directed by a member or a delegate of the Elementary Schools Board. The majority of teachers trained in these colleges (about 70 %) teach in the infant schools. Also they can be employed to teach in smaller elementary schools — that being so particularly in the most northern parts of the country — or as assistant teachers. In the capital the teaching in infant schools is in the hands of female elementary school teachers, excepting some schools in a quarter of the town, where infant school teachers are entrusted with this teaching.

Each elementary school must have at least one *regular* (ordinarie) teacher. Only fully qualified elementary school teachers are entitled to apply for this post. The applications are submitted to the School Board, who may examine one or more of the applicants, afterwards placing three of the names on a nomination list in order of merit. The election is made by the Vestry Meeting.

A regular elementary school teacher cannot be deprived of his post except for flagrant incapacity, unwarrantable neglect of his duties, or gross misconduct. In such a case he receives a warning from the School Board. It is only after he has neglected to act on that warning that the School Board can dismiss him. The teacher can appeal from the warning and from the dismissal to the Diocese Board (stiftsstyrelsen), and ultimately to Government.

The non-regular teachers are: "*extra-ordinary*", who teach in elementary schools proper and are fully qualified elementary school teachers; *assistant teachers* (biträdande), who exceptionally teach in elementary schools proper, but are not fully qualified elementary school teachers; teachers in *smaller elementary schools* and *infant schools*, who need only have the qualifications of infant school teachers; finally *special teachers* (instructors) for the technical lines. The non-regular teachers are engaged by the School Board conditionally for a certain period, or provisionally. However, as regards teachers in infant schools, the Vestry Meeting and

the School Board can make regulations whereby these teachers obtain a more permanent position.

Salaries. The minimum salary of a regular elementary school teacher (ordinarie) is on the first scale 900 kronor, on the second 1 050, on the third 1 200, and on the fourth 1 350 kronor, the salary rising to the next higher scale after five years. The minimum salary of women teachers is likewise 900 kronor on the first scale; but they have what is called a periodic increment for years of service (ålderstillägg) of 100 kronor every five years, their salary after 15 years of service being thus 1 200 kronor. In addition to their salary the teachers have free lodging and fuel, or equivalent, besides which, where this is possible, they have the disposal of a plot of ground. This salary is paid for 8 month's service. Every additional month is remunerated with one-eight of the salary. There is an extra salary for teaching in the "continuation school". If an elementary school teacher also teaches sloyd, he receives extra remuneration for it.

Hand-work Hall. Gothenburg Elementary Schools.

In the towns and in many places in the country the parishes give considerably higher salaries than the above, in consideration of the higher costs of living.

A regular elementary school teacher is entitled to a *pension* of 75 % of the statutory salary on the highest scale, or 1 013 kronor for male teachers and 900 kronor for female. In several school districts the parishes grant an increment to this pension. On the other hand, the teacher is himself bound to pay a fee to the Widows' and Orphans' Pension Fund from which his survivors receive a pension. Teachers in infant schools and smaller elementary schools and non-regular teachers in elementary schools proper are likewise entitled to a pension from an Old Age Pension Fund established for their benefit. The amount of this pension is at present 450 kronor.

For the advancement of the primary education and of their own interests the elementary school teachers have constituted several private *unions*. The most important of these is Sveriges Allmänna Folkskollärareförening, which at present numbers about 13 000 members. Next comes the society called "Folkskolans Vänner", with about 4 200 members. The leading periodicals devoted to the interests of the craft are the "Svensk Läraretidning" published at Stockholm, and the "Folkskolans Vänner" published at Gothenburg.

Dentistry Room at an Elementary School, Stockholm.

The Scholars. All parents and guardians are obliged to send their children or wards to school. It is the bussiness of the School Board to see that this is carried into effect. The school age is from 7 to 14. However, if the parents so desire, children can begin their schooling at the age of six. Children who have failed to come up to the required standard are obliged to continue at the school after the regular leaving age. On the other hand, children who have passed through the prescribed course more rapidly than usual, are entitled to leave the school before the regular age. Children who are being taught in other State schools or in private schools equivalent to the elementary school are exempted from attending the elementary schools. Moreover, the School Board may grant permission for children to be taught at home, provided the teaching imparted at home is recognized as up to the standard.

The Royal Decree of the 21th November 1913 directs, that for each school district regulations must be confirmed, as well as particular rules.

The regulations are issued as to the *general organization* of the schools in accordance with the local requirements, as to the division of the district into territories, as to the number of the scholars per each teacher, as to the seasons and the daily hours of teaching, as to the discipline, and as to the duties of the teachers etc. Likewise the regulations must contain a complete syllabus of instruction. The school regulations are drawn up by the School Board, after the teaching staff has been consulted, and after the Vestry Meeting has determined about certain parts thereof; they are then sent on to the Government Inspector and forward with his remarks to the Chapter who is empowered to sanction them, if approved. In case the Chapter and the Inspector have a different opinion on certain heads, these heads must be submitted to the Elementary Schools Board, before the regulations can be entirely confirmed.

The contents of the *particular rules*, above mentioned, are administrative details as to admission of the children, as to procure school materials and furnish the scholars with books, and as to cleaning and warming of the school rooms etc. That rules are drown up and established by the School Board, after the teaching staff has been consulted, and after the Inspector has expressed his opinion on the proposed rules.

The course of instruction in the infant schools is normally two years, and in the elementary school proper normally four years. These six years constitute the *obligatory elementary school course.* Children who have passed through this course undergo a final examination *(avgångsprövning)* under the superintendence of the School Board or of persons expressly appointed for this purpose. Those who pass this examination receive a "final certificate" *(avgångsbetyg).* It has been indicated that every child is expected to go through the complete course. There is, however, an exception in favour of children who are too poor to remain on at the school as long as would be necessary for this purpose; these children may obtain permission to leave the school on attaining a lower standard of acquirements, known as the "*Minimum*".

If parents or guardians are too poor to find the children in clothes and to maintain them at the school, it devolves on the Poor Relief authorities to relive them.

Should parents or guardians neglect to cause the children to attend school or hinder them from so doing, they receive a warning. Should the warning be ineffectual, the children may be taken from home and entrusted to the care of others; in this case, the cost of their maintenance is recovered from the parents.

Vicious children who have a bad influence on their schoolfellows may, if the necessary means are granted, be taken away from the school by order of the School Board, and removed to a reformatory, or be otherwise provided for.

The Teaching. The syllabus of instruction is drawn up for each school

district by the School Board on the basis of a normal syllabus issued by the State. This normal syllabus leaves the districts liberty within certain limits to organize the schools and the teaching in the manner best suited to the local conditions, which naturally vary according as the schools are located in towns or in the country, in populous or in sparsely populated districts.

According to the regulations, the annual period of instruction shall not be less than eight months. In many school districts, most of them in the towns, it is extended to nine months. In "movable" or "ambulatory" schools, which are intended for out-of-the way districts too poor or too sparsely populated to maintain a permanent school, the teaching is conducted in two, or occasionally three, localities at different seasons of the year. Consequently the children in these schools have a much shorter term of instruction, usually $4^1/_2$ months a year. The tendency is for the "movable" schools to be converted into stationary ones. Even in the stationary schools the children are sometimes taught in separate groups at different seasons of the year, or different days in the week. As a set-off to these unsatisfactory school arrangements, in some places the children are kept at school for a longer term of years, until they have reached a certain standard.

It is incumbent upon the teachers to look after the morals of the children not only during school hours but also in their free time. As far as this is possible, they should secure the cooperation of the parents in the education of the children.

Subjects. The subjects to be taught are prescribed by the Public Elementary Education Statute. Directions as to the extent of the instruction in each separate subjects are given in the above mentioned *normal syllabus* issued by Government. In accordance with that syllabus the complete elementary school course shall embrace the following requirements:

Scripture: Reading of some of the historical books of the New Testament besides one of the apostolical letters or selections from the Psalter, stories from the Old and New Testaments, Luther's shorter catechism with the official commentary to it, and from 10 to 15 verses from the Psalms for every school year. *Swedish:* Correct and fluent reading, practice in listening to and orally reproducing a text read aloud, tolerably correct spelling, reproduction in writing of stories and written accounts of set texts and of the scholars' own observations and experiences, knowledge of the elements of grammar, proficiency in copybook writing. *Arithmetic and Geometry:* The four simple rules of arithmetic in integers and fractions with easy exercises in their application, the drawing, description and measurement of lines, angles, triangles, quadrilateral figures, and circles, as well as description and measurement of the simplest solid figures. *Geography:* The main outlines of physical geography, with a more detailed knowledge of the geography of Sweden, and a shorter conspectus of the geography of other civilized countries. *History:* Selected stories from the history of Sweden. *Natural History:* Description of the commonest objects in Nature, account of the structure, functions, and care of the human body, knowledge of the most important natural phenomena and of the heavenly bodies.

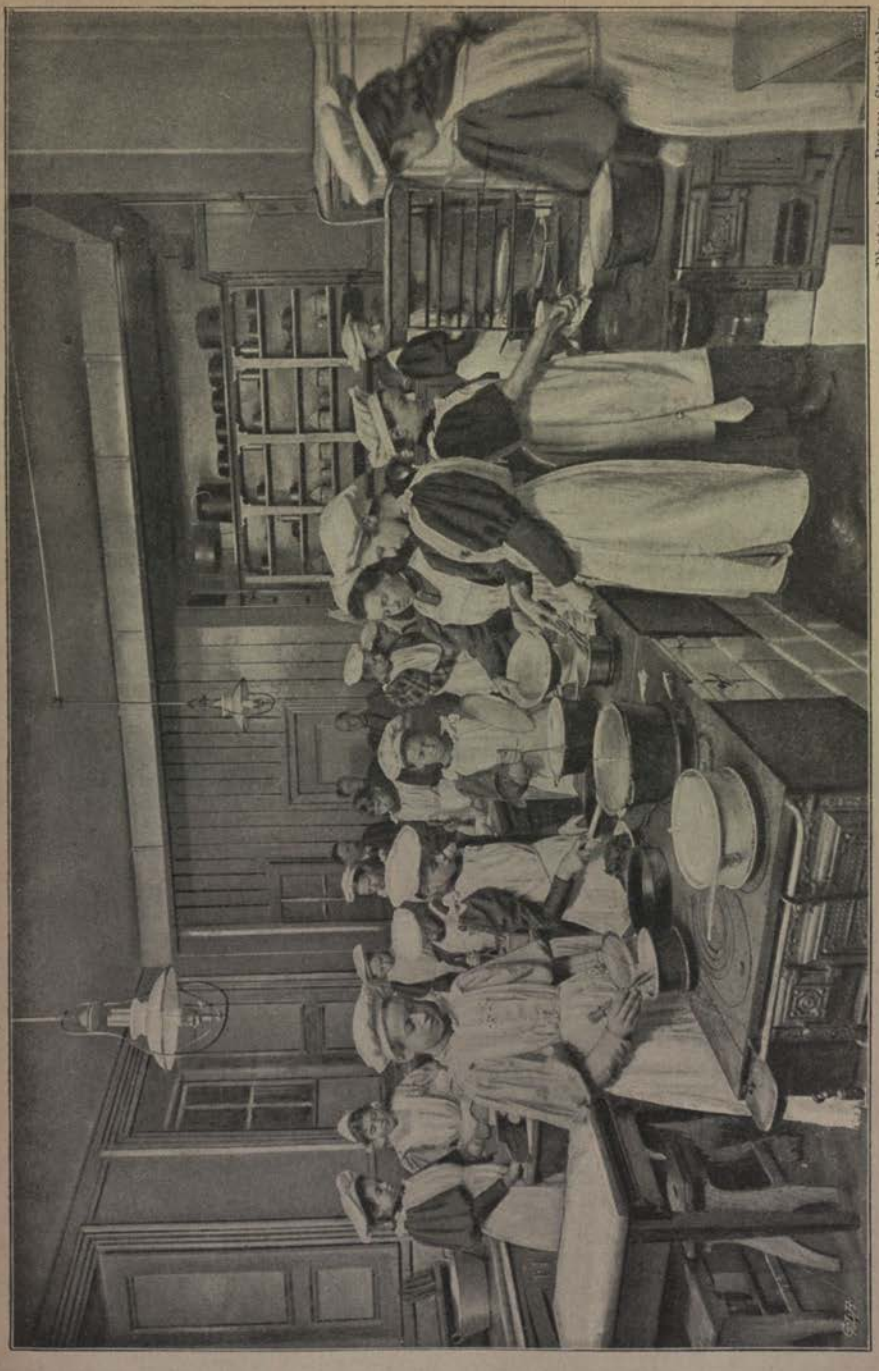
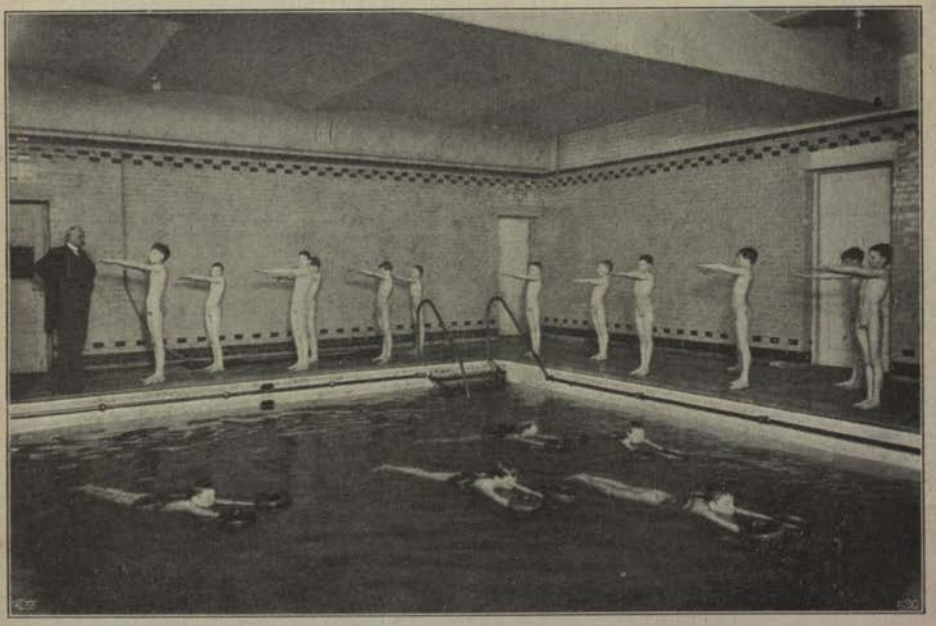


Photo. AXEL RYDIN, Stockholm.

Cookery School Kitchen, Stockholm.

The teaching also includes: *Drawing:* free-hand from plates and objects, and linear drawing of geometrical figures and objects. *Singing:* Choral and other songs with preparatory scale exercises and time exercises. *Gymnastics:* Ling's System: free exercises (Swedish drill), marching and jumping exercises, and, in schools where they can be arranged for gymnasium exercises; also free games. *Gardening* (where there is a school garden): Cultivation of the commonest flowers and vegetables, rearing of bushes and trees, fruit-tree culture, and instructions in the laying out and management of a garden.



School Bath at an Elementary School, Stockholm.

In addition to the above obligatory subjects there are the following *voluntary* subjects: *Wood sloyd* for the boys, in several places also *metal sloyd* and other kinds of sloyd; for the girls preferably knitting, plain needlework, darning and mending, in many schools also dress-making, spinning, weaving, and basket-work. The girls can also receive instruction in *household economy:* Cooking and baking, the aim being to enable the girls to cook nourishing, wholesome, and palatable every-day fare for a peasant's or workman's household, and to do this with economy, cleanliness, and good judgment; the management of the kitchen range, washing up, scouring, and "doing the rooms"; a brief course in practical housekeeping, with instructions as to the utilization, nutritive value, and economical importance of various food stuffs. Schools in which household economy is taught have a "*school kitchen*" (skolkök) connected with them (see above). These two subjects, sloyd and cookery, though voluntary, have been extensively introduced in the course of the last twenty or thirty years. Sloyd is doubtless the most popular, but cookery runs it very close: "school kitchens" are now arranged for in many schools both in the towns and in the country. The first "school kitchen" was founded in 1882 at Stockholm by the charitable institution called Lars Hiertas Minne. Mrs Anna Hierta-Retzius was the prime mover in its

foundation. Nine years later the first "school kitchen" was founded at Gothenburg by the municipal school board. The proposal originated from Miss Eva Rodhe. Subsequently State-aided training colleges have been established for teachers of household economy; these colleges train teachers both for the girls' secondary schools and for the elementary schools.

The Continuation Schools. The syllabus of instruction of the "continuation schools" (see above) comprises mainly the following requirements: — *Scripture:* Bible reading and Luther's shorter catechism as a summary; a somewhat fuller treatment of the doctrine of sacraments; *Swedish:* Composition, especially in the form of letters, writing of an ordinary business letter, reading of historical and geographical descriptions, natural history and poetry. *Arithmetic and Geometry:* Integers and fractions with exercises, book-keeping by single entry, description and measurement of polygonal figures and ellipses, and also of solid figures. *Drawing:* Drawing exercises in connection with geometry and sloyd. *Swedish History:* based on some Reader; *Natural History:* especially such knowledge of nature as is applicable to industry, commerce or hygiene. — The two last subjects are not taught at all continuation schools.

It is incumbent on the School Board to urge parents and guardians to cause children who have obtained a "final certificate" (avgångsbetyg) from the elementary school before the age of 14, and who have not passed over to the Higher Division of the elementary school or to another educational establishment, to cause these children to avail themselves of the instruction imparted in the Continuation Schools. Employers have no right to hinder them from participating in this instruction.

The Higher Division of the Elementary School. The syllabus of instruction of this Higher Division comprises, besides those enumerated in connection with the Continuation Schools, the following requirements: *Divinity:* Conspectus of the canonical year and short account of the prayer-book service, passages from Church History, chiefly biographical. *Swedish:* Reading of literature and brief accounts of the lives and works of Swedish men of letters, exercises in oral composition, more advanced grammar, more advanced composition. *Mathematics* and *Book-keeping:* More advanced vulgar fractions, interest, rule of three, etc. equations, especially numerical, of the first degree, with one unknown, and exercises, geometrical constructions, the elements of book-keeping. *Natural History* and *Hygiene:* Physical and chemical phenomena, selected passages of animal and vegetable biology, hygiene in connection with more advanced knowledge of the structure and functions of the human body, knowledge of the earth's surface and its changes, and the elements of the structure of the universe. *History with Political Science:* Epochs of the history of the world, especially the history of modern times, connected, where a connection can be established, with Swedish history, main outlines of the Swedish constitution, and the elements of State and local administration. *Geography:* The geography of Sweden and of other important civilized countries with special reference to the natural conditions, and the principal facts relating to industries, communications, culture, and form of government. *Drawing:* Linear drawing and free-hand drawing for boys, free-hand drawing and pattern tracing for girls. *Singing:* advanced exercises, national and other songs, choral songs, and advanced practice in the singing of the Swedish mass. *Gymnastics:* Exercises and free games, and for boys, circumstances permitting, military drill and shooting practice. *Sloyd* and *household economy:* advanced instruction. *Foreign languages:* In several places (especially in the large towns) one foreign language (either German or English) is taught.

No fixed course of instruction is prescribed for the **Higher Elementary School** in the "Normal Syllabus". The schemes of instruction vary considerably in diff-

erent places. They are provided for in the regulations of each school, which must have Government sanction.

Children who have obtained permission to leave the elementary school after taking only the lower standard, known as the "Minimum", (see above) may complete their education in a special kind of school called *ersättningsskola*, meaning "Compensation School", in which the subjects taught are Scripture, Swedish, Arithmetic, and Singing.

Hygienic arrangements. In accordance with the present public elementary education statute, special measures shall be taken in the event of an outbreak of infectious disease, or if any of the school children has caught such a disease, or if such a disease has broken out in the home of one of the school children. With respect to these measures the School Board and the Communal Board of Health act in concert. In several towns school doctors are attached to the schools. They have instructions to examine into the state of the children's health, to prescribe treatment of the sick children, and to attend to the school hygiene. In several towns provision is made for the care of the children's teeth, dentists being appointed expressly for this purpose.

Other arrangements made for promoting the physical development of the school children are *school baths*, *free meals for poor children* (barnbespisning), and *vacation colonies* or "holiday camps" (skollovskolonier).

In the larger towns it has long been the practice to arrange for baths and swimming exercise for the elementary school children, girls as well as boys, during the summer. In these towns and in some smaller ones school baths (shower-baths and plunge-baths) are arranged for also in the winter. In many school houses there are now regular bathrooms where the children can have a hot bath once a fortnight, or at least once every three, or every four weeks. These baths are voluntary, but participation is pretty general.

Free meals for poor and badly-nourished children are provided for in the school houses, especially during the winter months, when many workmen are out of work. The cost is borne partly by the parishes, partly by charitable institutions and private persons. In the capital these free meals are connected with the "school kitchens", the food cooked by the girls serving as dinner for school children who cannot get a proper meal at home.

A somewhat more detailed account shall be given here of the **vacation colonies** *(skollovskoloni)* touched upon in the foregoing section. From most of the towns in Sweden poor and delicate children are sent out to vacation colonies in the country during the summer holidays. This work is accomplished by private societies. A vacation colony usually consists of some thirty children under the superintendence of a teacher, male or female, and the necessary assistants. In some cases the colonies have their own premises in the country; otherwise they rent a farm-house or other building close to the water and the forest. The children are given nourishing food, live as much as possible in the open air, and indulge in sea-bathing. The pale, sickly children return from their sojourn in the country with ruddy cheeks and strong bodies. Unfortunately the health and strength they have gained often ebbs rapidly away, once they are back in their poor homes and unsanitary surroundings. But certainly the bracing country air gives them stamina to resist the evils of those surroundings. And incontestably the vacation colonies have most beneficial effects on the health of the people, and a hardly less salutary influence on their morals; they train them to regularity, orderliness, and cleanliness.

It was in 1884 that the first vacation colonies were sent out from *Stockholm*. Since that time their numbers have increased year by year. In 1914 the capital sent out 73 colonies with altogether 2439 children. The funds accrued from grants made by the town councils and the parishes, from monies collected on "Barnens

dag", (a kind of "Hospital Sunday" in aid of poor children), and from endowments. The vacation colonies are managed by local societies. Delegates from these societies form a Central Board, of which the Queen is honorary president. The Central Board administers certain of the funds devoted to all the colonies in common. The largest is that bequeathed in 1911 by Mr Ernst Hirsch, and bearing the name of "Elin Hirschs minne" (The Elin Hirsch Memorial Fund). It amounts to half a million kronor, and is administered by the Stockholm School Board, which annually makes over to the Central Board the interest which has fallen due. — Most of the Stockholm school colonies are located in the Skärgård of Uppland. Several are situated in the property of Lingslätö in the parish of Väddö, purchased in 1911 from monies collected on "Barnens Dag". The place is generally known as "Barnens ö", (Children's Isle). Since 1896 weak-lunged children are sent to mountain camps expressly intended for them at Ånn in Jämtland. In 1914 190 children in four camps were sent thither to breathe the mountain air.

From the "Children's Isle", Lingslätö.

As has been mentioned, vacation colonies are sent out from most of the towns in Sweden. Thus in 1912 Gothenburg had 41 vacation colonies with an aggregate of 1 405 children, Malmö 22 with 485 children, Norrköping 11 with 327 children, Halmstad, Hälsingborg, Karlskrona, and Lund each 6 camps with respectively 173, 193, 154, 152 children, Eskilstuna, Gävle, Kristianstad, and Sundsvall 5 colonies each with respectively 132, 145, 85, and 150 children, Falun and Uppsala each 4 colonies with respectively 108 and 115 children, and so forth.

Children from some towns are also boarded in private homes in the country during the summer holidays. These children are called *feriebarn* or "holiday children". As a rule they have no expenses but their outfit and their journey money. Thus in 1914 871 Stockholm children were boarded in private homes in the country.

Children who have belonged to the "self-aid classes" *(hjälpklasser)* of the Stockholm elementary schools can live in the country the whole year round at the "Working Colony" *(arbetskoloni)* at *Lillsjönäs*, a property granted for this purpose by the town of Stockholm. At the Working Colony the boys are trained as agricultural labourers, and the girls are trained to household work. When they leave the Colony, suitable situations are, if possible, procured for them. The Colony was started in 1911. Thus out of the 42 pupils who had been received there during the three first years, 14 boys and 4 girls had before the close of 1914 obtained promising situations. The society whose mission it is to look after children from the "self-aid classes" has also sent children who had not yet left those classes, to vacation colonies during the summer holidays. In 1914 30 of these children were sent to a colony in Dalarne, and 17 were taken on during the summer months at Lillsjönäs.

School materials and school libraries. The Department for Ecclesiastical Affairs sends out to all the school boards a copious list of school materials which the elementary schools can procure at considerably reduced rates. For this purpose the State makes an annual grant, amounting in 1912 to 30 000 kronor, to compensate the publishers for the reduction. The school libraries and parish libraries are managed by the school boards. In some of the towns these school libraries are pretty extensive. Thus at Stockholm in 1913 there were 16 school libraries possessing altogether 38 871 books and at Gothenburg in the same year there were 9 school libraries with an aggregate of 10 982 books. The number of "book loans" in that year was at Stockholm 89 930 and at Gothenburg 59 330.

Local regulations in certain towns. The foregoing account has dealt with the *general* regulations as to the organization of elementary schools. In virtue of the great difference which exists between the conditions in the towns and in the country, a special law has been issued with regard to the elementary schools in certain towns. It came into force on the 1st January 1910. This law is in force in the towns where the Government, at request of the Town Council or the Vestry Meeting, has so appointed. These regulations differ from the general regulations in the following points: The administration of the elementary schools devolves on the municipality. The immediate government is in the hands of a School Board, which superintends the instruction and administers the finances. It submits proposals to the Town Council. It is empowered to appoint and dismiss teachers. Where not otherwise prescribed, the School Board consists of the rector of the parish, or, where there are several rectors, of the one elected by the Chapter, and of not less than eight, and not more than twenty other members, half of whom are elected by the Town Council and half by the Vestry Meeting (or Vestry Meetings). For the town of Stockholm and some else larger towns separate regulations are prescribed.

Regulations concerning elementary education in the North of Sweden. In the northernmost regions of Sweden, where the people speak Lappic or Finnish, and where the population is poor and sparse, the State makes greater sacrifices for the benefit of national education than in other parts of the country. In the State training colleges for infant school teachers (see above), pupils who can speak Lappic or Finnish and who engage to take posts as teachers for Lapp or Finnish children are awarded larger scholarships than usual. The schools for Lapp children and the schools for Finnish-speaking children are supported en-

tirely, or almost entirely, by the State. In the Lapp-schools the Swedish language is a separate subject, and in the two highest classes all teaching is done in Swedish. In schools for Finnish-speaking children all teaching is done in Swedish.

Results. It is not easy to find a safe criterion whereby to gauge results. Taking results to mean "leaving" results, some indication may be afforded by the number of children who leave the school after taking only the lower standard, known as the "minimum". In 1886 these children formed 29 % of the total number of children who left the elementary schools without continuing their education elsewhere, whereas 71 % out of this total had taken the higher standard, that is, had passed through the *complete* elementary school course. In 1913 the corresponding figures were respectively 14 and 86 %. These figures point to improved attainments. It is another matter to ascertain the amount of knowledge actually retained some years later, when much of what has been learnt at school has already been forgotten. Some guidance is afforded by the ability to read and write shown by the young men serving as conscripts. The results in this respect will appear from Table 62.

Thus practically all the young conscripts are able to read and write. That the women do no lag behind the men in this respect may be taken for granted. Thus with the respect to the ability of the people to read and write, Sweden can match any other country. Attempts have been made by private persons to examine more closely the standard of knowledge attained by youths and girls who have done their schooling. The results of these experiments must convince even the most critical, even the most competent judges, as to the need of certain reforms in the internal and external organization of the elementary schools. The aims of the reformers are to adjust the teaching more closely to the child mind and to child needs, in other words, to stimulate the spontaneous activity of the children, and to get rid of a good deal of the superfluous knowledge with which their brains are stuffed. Further the reformers desire to extend obligatory education to a somewhat later age. If this is done, and if this is backed by more vigorously pursued educational work among the young men and the young women of the people, there is every reason to believe that the results will be excellent.

Expenditure for elementary schools. No school fees are paid by the scholars: the expenditure is defrayed partly by the State, partly by

TABLE 62. *Ability to read and write shown by the conscripts serving their first period of training from 1912 to 1913.*

Reading	Number of conscripts	Percentage	Writing	Number of conscripts	Percentage
Proficiency	16 242	64·44	Proficiency	9 785	38·82
Moderate ability	8 935	35·45	Moderate ability	15 363	60·96
Lack of ability	27	0·11	Lack of ability	56	0·22
Altogether	25 204	100·00	Altogether	25 204	100·00

TABLE 63. *Expenditure for Elementary Schools.*[1]

Annually	Mean population	Aggregate expenditure, kronor	Kronor per head	Items of expenditure, kronor			
				Salaries	Premises and fittings	School materials	Other expenditure
1886	4 700 000	12 243 284	2·61	8 062 815	2 149 220	234 396	1 799 853
1886—90	4 742 000	12 154 629	2·56	8 460 795	1 822 928	224 330	1 646 576
1891—95	4 832 000	14 483 222	3·00	9 679 281	2 391 281	315 688	2 096 972
1896—00	5 032 000	19 350 719	3·85	11 713 603	4 369 041	308 391	2 959 684
1901—05	5 214 000	25 510 946	4·89	15 261 115	5 437 107	394 618	4 418 106
1906—10	5 406 000	38 042 910	7·02	21 837 601	8 549 063	624 792	7 031 454
1910	5 499 000	41 663 482	7·58	25 049 532	7 652 290	691 670	8 269 990
1911	5 542 000	43 688 690	7·88	25 755 496	8 384 247	656 323	8 892 624
1912	5 583 000	44 788 091	8·02	26 589 313	7 938 608	718 503	9 541 667

[1] The figures relate only to actual elementary schools; they do not include training colleges, nor grants to the pension funds. The aggregate cost of elementary school teaching in 1912 inclusive of training colleges, people's high schools, and schools for the abnormal, may be estimated at about 48 million kronor.

the parishes. It devolves on the parish to provide and maintain school premises, to equip them with furniture, to procure school materials, and to see to the warming and cleaning of the premises. It is moreover incumbent on the parish to supply the teacher with his dues in kind, to defray a certain portion of his cash salary, and to pay in an annual fee to the pension fund for each teacher on the permanent staff. The State defrays $^{9}/_{10}$ of the cash salary, and a somewhat higher rate on the higher scales. In addition to this, the State adds an increment to the pension fund, which at present amounts to about 772 000 kronor, and entirely defrays the costs of the training colleges, and of the staff of Government inspectors. Out of the aggregate expenditure for the national schools, inclusive of schools for abnormal children and the people's high schools, about 34 % (in 1900 30 %) falls on the State.

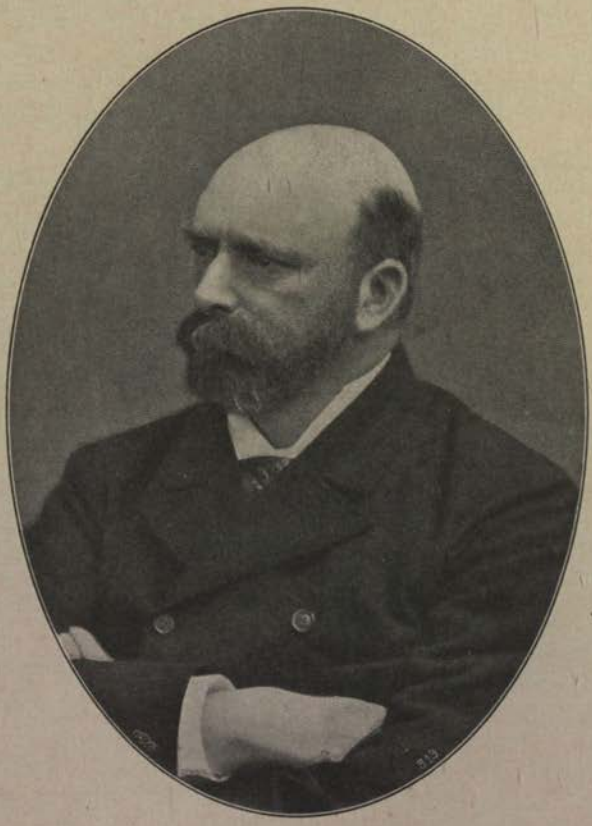
Endowments for the purpose of national education totalled in 1912 approximately 8 165 000 kronor.

Educational Sloyd.

Sweden has played a leading and prominent part in recent efforts to prevent children at school from being overstrained by too exclusive brain-work. These efforts have led to the establishing of a systematically organized course of manual training as an integral element in every school curriculum that makes pretence to be drawn up on rational lines. The educational sloyd system devised in, and put in practice throughout, Sweden has since been introduced into numbers of other countries both within the borders of Europe and outside them.

As early as the beginning of the eighteen seventies steps were taken for introducing sloyd as a subject of instruction at Swedish schools then

existing, and also for establishing special sloyd schools where the subject should be exclusively taught. At first these efforts received financial support from private persons interested in the cause, but before long public recognition was accorded in the shape of grants from the national exchequer and from local authorities, i. e. county councils and provincial agricultural societies. From the first-named source the financial aid came in the first instance indirectly, being paid over by the Academy of Agriculture to the provincial agricultural societies for distribution.



Otto Salomon.

In 1877 the Riksdag voted the sum of 15 000 kronor for the furtherance and encouragement of sloyd teaching for boys. At that date there were some 80 schools at which sloyd was being taught, and each such school received an annual grant of 75 kronor; in 1911 the number of classes in receipt of state aid of this character was 5 400. The subject is not as a rule a compulsory one that all boys have to take, nor are the systems of sloyd teaching in use at the various schools by any means uniform in all particulars. — The total grant voted by the Riksdag in

1913 for those schools that impart instruction in sloyd to boys was 390 000 kronor.

The term, "Swedish Educational Sloyd", is used to denote the educational system and method devised and put in practice at the Nääs Sloyd Training College *(Nääs slöjdlärarseminarium)*, at which the large majority of the men and women now engaged in teaching woodwork sloyd received their training. Sloyd is indeed also taught at all the training colleges for elementary school teachers and, at special sloyd courses organized by several of the "läns" (provinces) for the benefit of the teachers. These courses are often entrusted to the superintendence of one of the Government domestic sloyd instructors.

The Nääs Sloyd Training College was founded by *August Abrahamson* (1817—98), a landed proprietor at Nääs, some thirty kilometers from Gothenburg. During his life-time he provided the means for the support of the institution and munificently endowed it at his death. A supplementary grant is now made annually out of the public purse towards its maintenance. The origin of the College dates back to 1874, when the sloyd school for boys that had been opened at Nääs two years previously was extended to include a higher division. This consisted, to begin with, of a year's course of training for intending sloyd teachers pure and simple; that arrangement continued until the year 1882, when the last course of that type was held. Four years earlier an experiment had been made with shorter sloyd courses, of about five or six weeks in length, adapted for elementary school teachers in general. That proved a success and the present organization of the Training College is based in the main upon the plan then inaugurated. *Otto Salomon* (1849—1907) was the superintendent of the College from the start, and he it was that devised or evolved the Swedish Educational Sloyd System, the so-called Nääs System, and created the Nääs Sloyd Training College. At the present time two sloyd courses are held at the College each year during the summer months, each of them of six weeks' duration. Latterly there have also been courses arranged for the training of games teachers and cookery mistresses as well as courses for gymnastic instructors; classes have been given too in drawing, modelling and gardening.[1]

The teaching is given free of charge to such attenders of the courses as hold appointments at any of the public schools or at schools for the mentally defective. Others who avail themselves of the instruction at Nääs are charged 25 kronor each for one course, and 50 kronor if they hail from abroad. Certain fixed fees are payable for board, lodging, and materials. The instruction imparted in sloyd embraces on the one hand lectures and talks on educational sloyd with special reference to its system, method, and history, and on the other hand drawing and execution of a series of woodwork models, involving a carefully graduated succession of exercises in the use and handling of tools and material.

The total number of those who have attended the Nääs Courses from 1875

[1] In the session 1912—13 there were also some winter courses held, at which instruction in weaving, needlework etc. was imported.

to 1914 is 6 441. The following table shows how they are distributed among the several countries of the world.

Sweden	4740	Holland	106	Montenegro	1	Japan	2
Norway	127	Belgium	9	Greece	5	Philippines	1
Denmark	97	France	8	Italy	17	United States	138
Iceland	5	Germany	65	Spain	1	Canada	2
Finland	94	Switzerland	6	Portugal	3	Cuba	5
Russia	56	Austria	67	Egypt	5	Brazil	2
Poland	15	Hungary	33	Abyssinia	1	Uruguay	2
England	529	Roumania	18	South Africa	5	Argentina	3
Scotland	229	Serbia	1	India	7	Chile	1
Ireland	8	Bulgaria	16	Siam	10	Australia	1

In Sweden sloyd teaching on educative lines is mainly for boys ranging from 10 to 14 years of age; as *woodwork sloyd* is the most suitable form of manual labour for lads at that time of life, the teaching at Nääs is confined to that branch. In some schools there is indeed a certain amount of teaching work done in cardboard and metalwork sloyd, in lathe-turning and in wood-carving. Educational sloyd lays claim to a place on the school curriculum as being an essential factor in a youth's general all-round education. The object it sets itself to accomplish is not to turn out so many carpenters or other handicraftsmen. On the contrary, what it seeks to do is to contribute materially to the schoolboy's moral, intellectual, and physical development, by accustoming him to cultivate orderliness, attentiveness, and perseverance in his work, by training his eye to see more accurately and his hand to execute more skilfully, and perhaps most of all by affording him a means, additional to his physical drill and gymnastics, of counteracting the ill effects of an undue concentration on intellectual work, which school-life too often brings in its train. "Non multum, sed bene" is the motto of educational sloyd; the child is not therefore expected to produce a large number of big articles, but rather to give evidence of the greatest attainable accuracy in the execution of the articles he has made, a result that is sought to be attained by allotting comparatively simple tasks to the early stages and passing the pupil on by slow degrees and evenly progressing succession to more difficult and complicated pieces of work.

The basis of the Nääs method is the series of so-termed "Exercises." By the term "Exercise" in this connection is to be understood the modifying of the material by means of one or more tools in a prescribed way and for a prescribed end or object. Theoretically speaking, the number of such "Exercises" may be of course very large indeed, but for the working out of a sloyd method that shall be adapted for practical teaching purposes a definite limitation is obligatory; hence the Nääs method embraces, as a matter of fact, only 68 "Exercises" of the kind indicated. As far as is feasible, the work turned out should combine practical utility with at any rate a fair degree of beauty of form; the articles made by the children ought also as a general rule to be things that can be put to actual use at home, either by themselves or by their parents, thereby serving to strengthen in an appreciable degree the links uniting school and home. Articles of a purely ornamental character must be rigorously excluded from the list of suitable models.

Educational sloyd furthermore seeks to call forth individual activity on the part of the pupils and to train their powers of observation and reflection. By causing practice to precede theory, by letting execution come before explanation of the why and wherefore, the teacher leads the child on to think his own thoughts while accomplishing his own work independently. A factor contributery to this end is the prevailing rule: the teacher shall guide and superintend the boys at their tasks but be on his guard against carrying out any part of the

work himself. Whenever way opens for it, sloyd should go hand in hand with drawing, in such wise that the pupils, after acquiring the elements of drawing, should be set to work at their sloyd from drawings instead of from models. The main object of the instruction being the individual development of the pupil, the system employed is that of individual not class teaching.

The above are in brief the principles underlying the so-named Swedish Sloyd Method. As above pointed out, it is not strictly followed everywhere in all particulars; the main features are nevertheless always the same both in Sweden and in the other countries where it has been adopted.

Workshops for Children (Arbetsstugor för barn).

The *arbetsstuga* or "workshop" has for its object to provide during the winter months (October to April) a kind of home and refuge out of school-hours, for children of poor parents that are unable to look after their children themselves, owing to their work keeping them away from home. In these "school homes" the children, safe-guarded from the temptations and dangers of the streets, are kept occupied with suitable work which develops their dexterity at certain of the easier handicrafts. The work is superintended by good teachers of both sexes, and is adapted to the age of the children.

The first workshop was founded in the parish of Adolf Fredrik in Stockholm, in 1887, on the initiative of Mrs *Anna Hierta-Retzius*, by the *Lars Hierta Memorial Foundation*, which has ever since continued to meet requests for grants in aid of further workshops. In subsequent years new workshops have been added, both in the capital and in many towns and villages in the country, so that they now number no less than 92, of which 24 are in *Stockholm*, with a total of about 3 000 boys and girls between 7 and 14 years of age, who receive instruction in many useful occupations, such as light woodwork, carpentry, shoemending, brush-making, chip and bast work, cutting out and sewing of boys' and girls' clothes, and in some workshops, book-binding, card-cutting, basket-work, wood carving, weaving, cooking, and metalwork.

All the children receive for their work a good and substantial meal, either dinner or supper.

These workshops are not expensive to maintain: the expenses are defrayed by grants from Town Councils, Parishes and by the sale of the children's work; the yearly contribution of the Town Council to all the workshops in Stockholm was 43 000 kronor in 1914, while the parishes subscribed from 300 —2 000 kronor for each workshop.

The staff of teachers consists partly of voluntary, partly of salaried lady-teachers and of skilled artisans. Last year, the number of voluntary lady-teachers in Stockholm was 53 and that of salaried teachers 130.

Workshops to the number of 65 have been started in the course of the last 27 years also in the provinces.

In Västerbotten, the movement is under the patronage of *H. R. H. The Crown Princess*. Both in Västerbotten and in Norrbotten the workshops are often situated many miles away from the parents' dwellings; hence, in these regions they generally take the form of homes, where the children receive board and education during the eight winter months, going back to their parents during the summer.

In the course of the 27 years that have elapsed since these workshops were started, their organization and methods have been gradually perfected. Indeed the results yielded by the work have been strikingly good and have not failed to meet with general recognition. The workshops have proved to be one

Workshop for Children at Stockholm.

of the best possible means of *preventing* vagrancy and juvenile delinquency. Thousands of children, amongst whom many come from the worst of homes, have thus been rescued, without having had to be taken from their parents and sent to reformatories.

It is the aim of this movement to get the children *to love their work and do it well;* to equip them with such skill as will enable them to make their way successfully through life, and, as far as possible, to *support themselves* after leaving school.

Detailed information as to the work and organization of these workshops may be obtained from the illustrated work published in 1897 and entitled: "*Arbetsstugor för barn*" (Workshops for children) by *Anna Hierta-Retzius*, as well as in "*Modellserier från svenska arbetsstugor för barn*" (Model Courses from Swedish Workshops for Children) by the same authoress, published in Swedish in 1901 and in German in 1904 (Gustav Fischer, Jena); in "*Stockholms arbetsstugor för barn*" (The Stockholm Workshops for Children), being annual reports of the Central Committee for the Stockholm workshops for children, published from 1888 to 1913, 24 annual parts; and in "*Våra arbetsstugor för barn*" (Our Workshops for Children), a lecture by *Agda Hedvall*, secretary of the Central Committee.

Institutions for abnormal children.

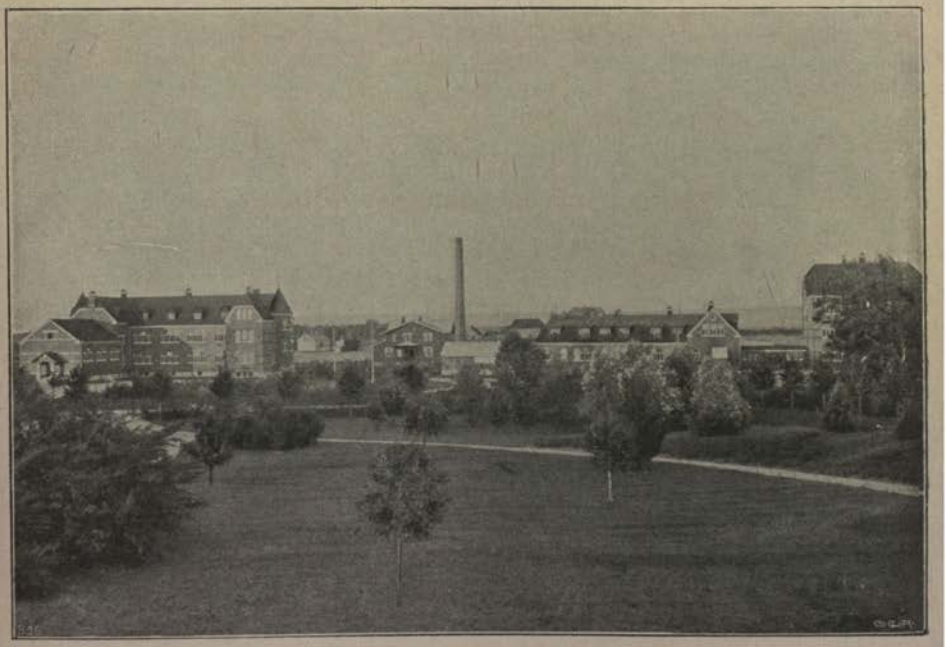
Schools for the Deaf and Dumb. About 1760, just when l'Abbé de l'Épée in France and Heinicke in Germany were laying the foundations for instructing the deaf and dumb in those countries, *Abraham Argillander* — without knowing anything of either of them— was occupied with similar plans in Finland (at that time a part of Sweden) and discovered a system which, in its main features, agreed with Heinicke's and was essentially what is now called the articulation method. After sporadic efforts in the meanwhile, a regular system of instructing the deaf and dumb was founded in Sweden by *Pär Aron Borg* in 1808. Up to 1864, this teaching (combined also with the instruction of the blind) was centralized at the institution founded by him at Stockholm, which soon became a State establishment. Its work was carried on chiefly in accordance with the methods of the French school. During the period 1864—89, a number of new establishments of a private nature arose, and efforts were made to extend the instruction to *all* deaf and dumb children, and at the same time vigorous attempts were made to introduce the articulation method for the deaf and dumb. By *a law* passed on the *31st of May, 1889*, a new era at last began, which, in respect of the education of deaf-mutes, puts Sweden in the fore-front among European nations.

According to this law, the education of deaf-mutes is a *public* duty falling upon the County Councils or upon the towns, when such are not under the administration of the County Councils; but the State contributes to the cost, however, and exercises a certain superintendence. This instruction, moreover, is *obligatory*. The school age is 7 and continues for 8 years from the time the pupil first enters the school. Private instruction is subjected to the control of the Public School Boards.

For the official education of deaf-mutes, Sweden is divided into 7 *districts*, each with its Board and one school at least. Every district determines its own detailed arrangements, which admits of all-round development and mutual emulation, productive of excellent results. This has been of immense advantage, during the time that has elapsed since the instruction of the deaf and dumb has been undertaken, a period that can be called experimental. Yet, of late years,

as will be seen furtheron, a tendency has been discernable in the direction of giving the movement a firmer and more unified organization.

At every school there is a trial class of one year, where the children are tested as to whether they can be advanced to the standard of the *articulation-method*, which is the main feature of the school and aims at the pupil's learning to speak and also to read the spoken language from the lips of others. Those who cannot are placed in the classes for *writing-methods*, which teach the "manual alphabet" and writing, or in that for the *method of signs*, which embraces gestures, supplemented, to a greater or less extent, by writing and the manual alphabet. But even children who are taught according to the articulation-method are divided into groups, according to their ability in following instruction — a regulation which constitutes one of the cornerstones of the Swedish organization for teaching deaf-mutes.



School for the Deaf and Dumb, Vänersborg.

The deaf and dumb schools are large establishments (accommodating, in some cases, a hundred pupils or more), with newly erected, costly buildings (to a total value of about $2^1/_2$ million kronor), and excellent educational appliances.

The instruction, as far as the subjects are concerned, is dual for boys and girls (a feature peculiar to the Germanic Deaf and Dumb school) and it generally extends over 40 weeks in the year and comprises the usual elementary school subjects. The boys are, in addition, taught wood-work, tailoring, and shoemaking; the girls, sewing, weaving, and household duties, and, in some schools, even cookery. Some schools teach both boys and girls gardening

At some schools, attempts have been made to start a continuation course, which has succeeded well and been gratefully attended by the deaf-mutes.

Only one of the former *private* schools now exists, the Deaf and Dumb School at Lidingön, near Stockholm, which receives adult female deaf-mutes after the com-

pletion of their course in district schools and offers them a continuation course of two years, in which practical training plays a leading part. The total number of *pupils* in the public schools amounted in 1914 to 585, of whom 494 were taught according to the articulation-method, 75 according to the writing, and 16 according to the method of signs. The number of classes is 80 and of *teachers* 83, 43 of whom are men, and 40 women. There is a *Seminary* for training the teachers at the Manilla Deaf and Dumb School in Stockholm (Borg's old institute, but now a district school).

With one school, that in Lund, an agricultural and technical side for deaf-mutes has lately been combined, and with another, a private preparatory school in Gothenburg.

Since the beginning of 1914, the State has made grants towards the cost of lectures for adult deaf-mutes. These amount to a maximum of 500 kronor for each of the 7 districts. Such lectures have been welcomed with great interest by the deaf-mutes.

The cost of the instruction and support of deaf-mutes amounted in 1913 to about 690 000 kronor. The State makes a grant of 154 000, being (for 1914), on an average calculation, 250 kronor for every pupil, and the County Councils defray the rest. According to law, parents or guardians (or Poor Law authorities) may be made by the County Councils to pay a yearly fee (50 to 100 kronor) for each pupil; but some County Councils have not availed themselves of this right.

In 1877, a *Swedish Deaf and Dumb Teachers Society*, one of the oldest of its kind in Europe, was formed by the teachers at these schools. The Society has, since 1880, published a magazine of its own, which in 1898 was re-modelled as the common organ of the deaf and dumb schools of Scandinavia. The deaf-mutes themselves have sometimes, after leaving school, formed societies for mutual help and recreation, of which the Stockholm Society has considerable funds at its disposal.

The total number of deaf-mutes in Sweden, according to the census of 1900, amounted to 5 299, or 103 to every 100 000 inhabitants — on the whole a rather large proportion. Of late, there has been some considerable decrease in the number, presumably due to improved hygiene. In consequence, a representation has been made to the Government for a change in the organization of the instruction of deaf-mutes, in order that the number of schools and thereby the average cost per child may be reduced, and at the same time the instruction may be more rationally arranged by transferring various categories of children to special schools. The idea has gained ground that certain schools should be turned into technical schools for the instruction of deaf-mutes after the close of the actual time of general education. A demand has been made that the State should take over the training of deaf-mutes, in the same way as it has that of the blind.

Schools for the Blind. The teaching of the blind in Sweden dates from 1807, when *Pär Aron Borg* (cf. the article above on Deaf and Dumb Schools) began teaching a blind woman adopted in his home. In 1808, Borg was enabled to open his afore-mentioned *institute*, which, from 1810 inclusive, enjoyed State support. This, however, soon proved insufficient for its twofold purpose, and so the education of the blind ceased in 1816, and was not resumed till 1846, when a special department for them was started conjointly with the Deaf and Dumb Institute. This combination, however, proved a check on the instruction both of the blind and of the deaf and dumb, especially of the former, who were more and more forced into the background by the much greater department for deaf-mutes. At length, in 1879, the teaching of the blind was re-

moved from Manilla, and entrusted to a special *Institute for the Blind.* Started at Stockholm, it was transferred to its new buildings at Tomteboda in 1888. But the institute alone could not take some 200 blind children of school-age (from 7 to 17). Two *preparatory schools* were required for their preliminary instruction. One of these was established at Växjö in 1884, the other was united to the institute, and began operations in 1899. In the autumn term of 1914, there were in both preparatory schools in all 78 pupils and at the institute 115 were enrolled, of whom, however, 12 were taught later at the *Technical School for the Blind* founded at Kristinehamn in 1884. Its pupils consist chiefly of such men as have lost their sight since they have been grown up, and numbered 44 at the time in question. The pupils receive gratuitous instruction in reading and writing, as well as in brush- and basketmaking, but must themselves defray the cost of their board. Each pupil, however, receives an assistance of the government subvention for this purpose.

By the law for institutions for the blind and a statute dealing with them, both passed on May 29, 1896, the instruction of the blind became *obligatory* from 1899 inclusive. A child is received into the preparatory school at the age of seven, to be prepared, by a four years' course of instruction, for entering the institute, where its education is continued and finished. Should such a child be of somewhat feeble intellect, it has to remain another two years in the preparatory school to finish off its studies. The subjects taught in this school are as follows: Religion, Object-lessons, Swedish, Writing, Arithmetic, Singing, Gymnastics, Hand-exercises, Modelling, and Beadwork. Children who have satisfactorily passed through the preliminary school are admitted into the institute, also children up to the age of 14, who, for some reason or other, are not admitted to the preparatory school, as a rule because of their having become blind after reaching the age of nine. For the former the period of study is 6, for the latter 8 years. The subjects studied at the institute are the same as those of the preliminary school with the addition of Geometry, Geography, History, Natural Science, Handicraft (basket- and brushmaking, joinery, weaving, housekeeping), Music, and Piano-tuning. The school-year, both at the preliminary schools and institute, extends over 40 weeks. For every child at either establishment the County Council, or the town, if it does not come under the County Council, pays 300 kronor per annum with the right of drawing contributions from parents or guardians, or from the parish. There is a so-called probationary year's course of training at the institute for those desirous of becoming teachers of the blind, and such students, while there, enjoy stipends from the State grants. The institute receives an annual grant of 2 500 kronor to *print books for the blind.* All literature for the blind is now printed in Braille type. The expenditure of the State for 1913 on the three schools amounted to 120 688 kronor.

Besides the State school for the education of the blind are two private ones, viz. Miss *Anna Wikström's School for Blind Women,* at Uppsala (since 1884) with 24 pupils, and *Queen Sophia Foundation* in Vänersborg (since 1886), intended for the blind who suffer from other defects as well (cf. p. 370).

All the institutions here named, except that of Kristinehamn, are for boarders.

The object of the instruction is, among other things, to give the blind so good a technical grounding that they may entirely, or in part, provide for themselves by their own labour. There must, however, be comparatively few who can support themselves completely by their own efforts. The State therefore as well as private persons furnish "help to those who help themselves". The directors at the institution of Tomteboda have received funds for this purpose, and at the end of 1913 these amounted to 847 703 kronor, with accumulated interest. The

interest on these funds has defrayed, besides other expenses, the supply of tools for pupils when they leave, working materials, and the supervision of the blind, which is intended to advise unions founded for their support, and to give the blind information, counsel and encouragement. Further contributions are made towards the depots existing in Stockholm and Kristinehamn for setting up blind artisans with good and cheap materials; a quantity of more costly tools are bought, and afterwards presented to the blind; shops are maintained for the sale of their products; and a home for blind women is kept up in Nynäshamn, accommodating 18 pensioners, half the number generally being able to defray by their own efforts the annual payment of 100 kronor.

The directors co-operate with the *Association for the Blind* in many departments of their operations; this society, founded in 1889, has enjoyed a yearly grant from the treasury since 1914 up to 35 000 kr. Its capital at the end of 1914 amounted to 541 730 kr. The association maintains a depot for material, and workshops for basket-making and brush-binding, with two business places in Stockholm: the members of its sick fund pay 2 kr. annually, and in case of illness, receive a weekly payment of 10 kr., limited to 60 kr. for the year. Thanks to bountiful contributions from private persons, which in 1914 amounted to 45 651 kr., the association can help blind people with repairs, furniture, etc., but this support does not usually rise above 300 kr. a year for any one person. The lending library, which contains about 5 000 volumes mostly printed by hand, has belonged since 1911 to the society, which houses this, and many other of its institutions, in its two establishments in Majorsgatan in Stockholm.

It is with the same object that *The Union for the Welfare of the Blind* works, founded in 1885 with a capital that amounted at the end of 1914 to 250 000 kr.; it often assists elderly blind people who desire to enter on a second course at Kristinehamn. A workshop is maintained in Gothenburg by a special association.

Blind people, advanced in years and incapable of work, often become a charge on the parish. There is, however, a home for elderly blind women at Norrbacka, outside Stockholm, where 22 blind women were cared for at the end of 1912.

Provision for the blind in Sweden is, in its main features, very much like that in Germany, a fact due partly to historical reasons, and partly in many ways to similar conditions, under which the blind live in both countries. The frequency of blindness, according to the census of 1900, (6·7 per 10 000 inhabitants), is lower than in Germany, Finland and Norway alike, though higher than in Denmark. In the 1890 census the proportion in Sweden was 8·3 per 10 000; this marked diminution may principally arise from the increasing practice of disinfecting the eyes of new-born children, by which one of the commonest causes of blindness — blenorrhea neonatorum — is largely removed.

Institution for the Blind with complicated defects (Queen Sophia Foundation). At the request of H. M. Queen Sophia, Mrs *E. Anrep-Nordin* received in 1882, as a private pupil, a *blind deaf-mute*, in whom the Queen had for some years been interested, but who, on account of her double defect, could not be admitted to any of the training schools in existence at that time The experience gained in the care of this child showed that the work of training blind deaf-mutes was by no means in vain, but that the isolation in which such unfortunate beings would otherwise languish could be done away with. It proved possible to place them in communication with other persons by teaching them to understand and use language — naturally in the form rendered necessary by their double defects — by means of the *manual alphabet* and *raised letters*,

to communicate to them by this means a knowledge and a reasonable conception of the world in which they live, and to inspire them with the desire and the skill to devote their abilities to useful work.

Photo. K. & A. WIKNER, Vänersborg.

Teaching blind deaf-mutes geography, by means of a raised map of Sweden.

Gradually the idea arose of establishing a special institution for such hapless children. Support was given by Queen Sophia, who from the very beginning had shown an active interest in the school, and the present official name of the institution is a token of gratitude to its exalted patroness; other persons interested in the question also lent their assistance, and in 1886 the Riksdag consented to a Royal proposal for a maximum grant of 2 000 kronor a year. The establishment of the institution was thus rendered possible, and it was opened at Skara on October 10th 1886, under the name of »*School Home for Blind Deaf-Mutes*», with four pupils, which number was in the following year increased by one. Since the year 1890 the institution has enjoyed 5 000 kronor a year for the support of the training of the blind deaf-mutes.

Gradually the School Home, which was removed in 1892 to Vänersborg, was enlarged so as to admit also *blind feeble-minded*, for the care and support of whom a grant was now made by the State.

For the blind deaf-mutes and blind feeble-minded who had gone through the actual school a *working home* was erected in 1905, which fulfils an important task, as the pupils leaving the school, even the most developed of them, naturally find themselves in a most helpless condition to face the world outside the school doors. The working home has been founded with the assistance of the

»Society for the care of adult blind persons, who are deaf and dumb or feeble-minded».

Finally, as many of the pupils were so feeble-minded that it was impossible to train them, it was found necessary to establish, in 1906, a third department — an *asylum* for those incapable of being trained, where they receive the care that their helplessness claims and are at the same time trained up to cleanliness and human habits, whereby they are able to lead a life which is, at any rate as far as the exterior is concerned, more worthy of human beings than before.

The *Queen Sophia Foundation* is a complete training institution for the blind with any complication of defects, including a *school*, where the pupils are instructed in ordinary school subjects and handicrafts, by preference weaving, a *working home*, in which the pupils are principally occupied with handicrafts, and an *asylum* for those incapable of being trained, the number of inmates of the various departments being 55, 25 and 57. The founder and directress of the institution is Mrs E. Anrep-Nordin.

The annual fees for each pupil are: in the school 400 kronor, in the working home 300 kronor, and in the asylum at least 300 kronor. Contributions towards these fees are now received from most of the county councils.

The *period of instruction* is reckoned as being from 10 to 12 years for such blind children as are deaf and dumb; for other blind children at least 8 years, according to the intellectual capacity of each child.

Besides, the institution aims at giving a shelter for life to any pupil in need.

The staff of the institution at present consists of 14 lady-teachers, 5 matrons, 16 nurses, 12 servants, an outdoor man-servant — in addition to the directress, the treasurer, and the doctor — all of whom, except for the last four, live in the institution.

For a long time the institution was the only one of its kind in the world. Some years ago, however, a similar school was established at Nowawes, near Berlin, on the lines of the institution in Sweden. It has frequently been visited by strangers, who have, for a shorter or longer period, studied its work. A Royal proposal with regard to the institution was made to the Riksdag in 1914, which thereupon decided that the institution should be entirely taken over by the State and removed to the city of *Lund*, as soon as the necessary buildings had been erected there, for which purpose a sum of 521 000 kronor was granted.

Institutions for the Training of the Mentally Defective. The history of the care of the feeble-minded in Sweden may be traced back for almost half a century. For instance, the first school (a private one), for feeble-minded children, was opened in 1863; this school was soon afterwards taken over by Emanuella Carlbeck, under whose direction it developed into a truly model institution. Later however, it was principally the läns which took in hand the training of feeble-minded children, two or more läns occasionally uniting their efforts for this purpose. The number of these schools is at present 27, of which 6 are owned by associations, and all the rest by the läns resp. towns which form own county council districts (landstingsområden). All these institutions are boarding-schools excepting one, that of Norrköping, which is for day-pupils.

Among the schools owned by societies, one, (founded by Mrs E. Anrep-Nordin) is reserved for the feeble-minded *blind*, and two, (founded at the instance of Mrs Ebba Ramsay), for *epileptics*, who are not admitted to the same schools as non-epileptics. The total number of pupils in schools for the feeble-minded was 1 028 at the beginning of 1914. The various foundations vary greatly in size, ranging from some ten or twenty pupils in the smaller establishments, up to close on 100 in the larger. The great majority of these training institu-

tions moreover, have "manual work" homes departments (*arbetshemavdelning*) intended for those pupils that have finished their school course, but for whom the protection and guidance afforded by the institution are still needful to keep them from falling off intellectually and morally after leaving school. There are also a few independent "work homes". The full number received into all these working homes departments was at the beginning of 1914 440.

The *schools* are divided into a probationary department and an actual school department. There is now no fixed limit set to the time during which pupils may continue in the probationary department which in the larger establishments is subdivided into two (really into three) classes according to the intellectual attainments of the children. In the actual school department in which the number of classes varies between one and six, according to the size of the schools, the subjects of instruction are the same as at the elementary schools, viz. Reading, Writing, Religion, Swedish History and Geography, Nature knowledge, Arithmetic, Drawing, Singing, Gymnastics, generally 3 hours a day, while the pupils are instructed kinds of needlework for 2 to 2 1/2 hours a day, usually in the afternoon, in various such as Crochet, Sewing, Weaving, etc., the boys also in Woodcarving and Brush-making, Shoemaking etc. One endeavours, however, to accommodate the teaching as far as practicable, to the *individual* requirements of the different pupils, in such wise that pupils who fail in the theoretical side of the teaching, but are able more or less to avail themselves of the instruction in the practical subjects, are principally employed on just those subjects. In the larger institutions a special manual work section of the school (*arbetsskoleavdelning*) has been organized for the benefit of these intellectually inferior, but yet teachable pupils. Moreover, the older pupils are set to work at gardening during the summer holidays, and, where the institutions have a farm attached to them, they are permitted and encouraged to take part in the farm work. As experience has shown that the boys usually take more kindly to this work out-of-doors and in the farm-buildings, finding it less monotonous than their ordinary school tasks, and as, moreover, this kind of work has been found to promote the development of abnormal children, these institutions have in several of the läns been removed from town to country. Indeed as soon as the need was realised of eking out these schools with *manual work departments*, their removal to the country became a sine qua non, in as much as facilities for gardening and farmwork are required in order to keep the boys employed, and well employed. As to the girls, thay are put to sundry kinds of domestic work, but especially all manner of feminine handiwork. Particular importance is attached to weaving: it was in fact in *Sweden* that this subject, so well adapted to the mentally defective, was first introduced as a subject of instruction, just as Sweden is said to have been the first country where *manual work* in general was applied to pedagogical purposes. In the institution for the mentally defective that are also blind, weaving is the chief occupation for both the boys and the girls.

Most of the institutions for the training of the mentally defective are superintended by women, and all instruction — with the exceptien of cobbling, and in some of the institutions also wood sloyd, brush-making, and the like, — is imparted by female teachers: this kind of work in fact, requires a great deal of patience, a quality that women as a rule possess in a higher degree than men. In order to supply a wellqualified teaching staff for the work, a *training college* for this purpose was founded in 1878. This training college which is attached to the chool belonging to the "Society for the Care of Mentally Defective Children" (formerly situated in Stockholm, but now removed outside the town), has at present accommodation for eight pupils, who pass through a two years' training course, both theoretical and practical. In aid of the maintenance of the training college there is an annual State subsidy of 12 550 kronor.

In addition to this, the State subsidizes the teaching of the mentally defective on the following basis: an *annual* grant of 250 kronor for each teachable child for at most 8 years, and, without any limit of time, the same amount for the blind and the epileptic, 200 kronor for other groups of mentally defective children, and 250 kronor for each unteachable child.

Whereas the grants for teachable children are of long standing, the State subsidy for unteachable children was not issued till 1904. After that date this hitherto almost entirely neglected branch of the work was steadely developed. Thus, several of the institutions managed by the läns have been eked out with an asylum for unteachable idiots, besides which there are a number of independent asylums for this purpose. At the close of 1912 the number of children cared for in all the asylums taken together was 726.

According to an investigation set on foot by the Board of Medicine at the beginning of the last decade, the number of mentally defective persons in Sweden is about 13 000. Out of these about 10 % are estimated to be teachable children of school age.

Institutions for the Care of Cripples. The care of cripples in Sweden dates from 1885, with the founding of the first *Association for the aid of disabled*, principally after Danish models, founded at Gothenburg, on the initiative of Dr. Olof Carlander. Soon after, in 1887, was founded a similar one, *The Association for the aid of disabled of Skåne in Hälsingborg*, and some years later, 1891, *The Association in aid of the maimed and disabled in Stockholm.*

All these Associations have erected *institutions.* At the start the working expenses were covered entirely by annual subscriptions and donations, but later the institutions received grants from the State, and also from the county councils and communes. Partly by the aid of annual subsidies, and partly thanks to generous donations for building, the associations have been enabled to extend their operations considerably, and transfer them to new institutions suitably arranged for the work among the disabled. At first the institutions existed only as industrial schools and homes, but more recently the associations have remodelled their plan, first in Gothenburg (as early as 1902).

Thus there are now in Sweden three quite modern institutions, with an appreciable, though by no means sufficient, amount of accommodation. All three are arranged on practically the same plan and work on identical principles.

The Association for the aid of the disabled in Gothenburg, as we have said, the first in Sweden, was founded in 1885, and the *industrial school* was opened on Nov. 5, the same year. A dispensary and sick-ward were soon after added.

The new and up-to-date institution of the association was opened on Nov. 9, 1912, with a complete dispensary department and accommodation for 56 patients in the sick-ward, and 70 pupils in the industrial school, of whom 50 can reside in the school-house. The resources of the association at the end of 1913 were 773 204·10 kronor; income during 1913 was 198 774·54 kronor, of which the State supplied 30 541·75 kronor. Expenses the same year were 130 873·69 kronor.

The personnel of the new institution consists of a lady president, 2 doctors, 8 instructors, 3 lady teachers, a lady clerk, a matron, a deacon (or manager of the male ward), male and female bandagers, 2 masseurs, 4 sick nurses, and servants.

The trades in which instruction is imparted are shoe-making, bandage-making, basket-making, carpentry, turning, book-binding, brush-binding, caning of chairs, and zincing of china (the three last for less robust pupils) linen sewing and marking, dressmaking and weaving, knitting, and tailoring. Instruction on certain evenings is given, besides, in drawing, book-keeping, geometry, and the

Swedish language. Patients remaining long at the institution are given an elementary school education. In connection with the institute is a summer home, which the pupils and convalescents in need of it can visit for recreation on the same conditions as in the institute.

The Association for the aid of the disabled in Hälsingborg works on exactly the same plan as that in Gothenburg, and has in its newly instituted infirmary room for 49 patients and for 60 pupils in the industrial school, of whom 40 may reside in the school-house. The resources of the association at the end of 1913 were 195 372·08 kronor; receipts during that year were 85 170·02, kronor, of which the State supplied 36 243·02 kronor; expenses in the same year were 63 879·32 kronor.

The Association for the aid of the maimed and disabled in Stockholm was founded in 1891, and works on the same system as those just named; it has, in its newly built sick-ward, beds for 35 patients and for 75 pupils in its industrial school, of which 50 can be boarded in the school-house. Its resources at the end of 1913 were 697 527·54 kronor, receipts for the same year 345 305·40 kronor, of which the State supplied 169 031·50 kronor. The same year's expenses were 308 235·26 kronor.

The three institutions are now erecting branches of their schools, intended for children below the age of 14 years, who will be given an elementary school education and also instruction in sewing, sloyd, and elementary carpentry. Opportunities for instruction in shoe-mending and simple framework will also be afforded the pupils.

Since 1913 there have accordingly been in Sweden three institutions, well appointed and worked on modern principles, with altogether room for 140 residential and 65 non-residential pupils, and 140 sick beds, besides which skilled orthopedic treatment may be obtained for a very large number of patients in the dispensaries of the institutions. Further, in addition to the cripple institutions, a common central organization has been formed and consists of 15 members, chosen from among the managers of the three institutions, 5 from each. This organization is called the Svenska Vanföreanstalternas Centralkommitté (S. V. C. K.; The Swedish Cripple Associations' Central Committee) and, owing to its constitution, consists of the most authoritative and experienced persons in these matters in the country. Its main object is to secure local support from all over the country and to help organizations for cripples; it also endeavours, by the publication of pamphlets and circulars, to spread information about the cripples, their numbers, their difficult position, and the possibility of helping them.

The S. V. C. K. also collects money for supporting the work among the cripples, and, thanks to the generosity of the public, it can afford them tangible help in the form of working utensils, invalid carriages, assistance in professional training of some kind, etc.

Corrective institutions for Depraved Children.

According to a law respecting the education of depraved and morally neglected children, promulgated June 13th, 1902, a sufficient number of *protective homes* ought (thus the measure is desirable but not absolutely necessary) to be provided for the care of depraved children in every county council district and town that is not included under a county council, and an additional such institution, recognized by the Government, for depraved minors (below 15 years of age); protective homes — according to the law in force to accommodate 30 pupils at the most — are to be met with in the Läns of Östergötland, Jönköping,

Halland, Värmland, Örebro, Gävleborg, Västernorrland, and Norrbotten, and the towns of Gothenburg, Malmö, Gävle, Sundsvall, and others. Among protective homes should also be included *Hall Farm Reformatory*, intended for seriously depraved boys from all parts of the Kingdom, between the ages of 10 and 15. This was instituted in 1876 by a private society, "The Association in Memory of King Oscar I and Queen Josephine". It is situated on a farm purchased for the purpose near the town of Södertälje. It is valued at 200 000 kronor, and, together with the buildings erected in order to adapt it to the purpose of a reformatory, its value is entered in the audit accounts at 240 000 kronor. Its regulations were confirmed by the Government on October 24th, 1879. Not more than 175 pupils are to be kept there at the same time. They are instructed in farming, gardening and the care of farm stock, and various handicrafts, according to aptitude. During the years 1876 to 1913, the Hall Reformatory has admitted 1 250 boys. About 75 % may be considered as reformed, after the completion of their specified course and discharge from the institution. The community regains these as lawabiding and useful citizens.

Besides the protective homes mentioned above, certain other establishments are to be found, which are similarly intended for more or less depraved minors, but not certified as protective homes. These are Stockholm's institution, *Skrubba*, for 60 children domiciled in Stockholm; the enlargement of this institution is under consideration; the Fröberg institution at *Norrgård*, near Kalmar; and *Råby Rescue Home*, at Lund in Skåne.

Institutes for morally neglected children. In accordance with the law aforementioned (June 13th, 1902) morally neglected children, who are separated from their homes, and the slightly depraved should be placed in some private family or in a home for children, so long as no danger is thereby threatened to the moral development of other children. Similar children's homes are to be found in Stockholm, Gothenburg, and other larger and smaller towns.

Reformatories for Juvenile Offenders.

By the Swedish law, children under fifteen are not punishable for crime. The present penal law ordains that "any action otherwise punishable shall go unpunished if committed by children under 15 years of age". Therefore offenders below that age undergo no other treatment nor training than other vicious children, in accordance with the Act of 1902, providing for the education of neglected children and degenerate children.

An intervening period ensues the ages 15 to 18, during which offenders enjoy some remission of punishment, as is more closely defined in the pena law, or else are taken in hand for compulsory education.

"If the crime (or offence, for in Swedish law no distinction is made between misdemeanours so called — Fr. *délit* — and felonies — Fr. *crime* —) has been perpetrated by a child above 15 but under 18, who is sentenced for it to a fine, or imprisonment of not exceeding six months, the court may (in cases where the mental character of the criminal, his surroundings, and the standard of his intellectual development is proved to call for such treatment), order that he shall be placed in a public reformatory instead of undergoing the sentence pronounced."

In order to put in force a court's order of this kind, (under the Act of June 27th 1902 which came into force at the beginning of 1905) the State has instituted a reformatory accommodating 100 male "pupils" at *Bona*, a crown demesne in Östergötland. This institution, which has received from all parts of the kingdom about 400 youths during the 10 years of its operation, is arranged

as a "school home" (*skolhem*). Especial stress is laid upon training in methodical work, and in accustoming the inmates to good habits and "a regular life". The pupils are occupied in farming, tending cattle, forestry, and any ordinary handicraft.

Theoretical instruction is imparted in the subjects taught by the elementary schools.

The time of residence at the institution is not determined by the court's order, but depends upon the steadiness shown by the pupils, and the capacity for work they have acquired.

Before discharge is definitely given (and it must take place at the latest when 20 years of age, but may be after two years from admission), the law allows the transference of a pupil to the care or supervision of private persons, or his removal to service or bringing up to a trade outside the institution. Up to now, about 200 discharged pupils have shown satisfactory behavior that is about 75 %.

The Bona Reformatory.

To provide for the care of female offenders under 15, in the category now under consideration, the State has made an arrangement with the Institute of Deaconesses (*Diakonissanstalten*) in Stockholm, which has founded a protective home for this purpose at *Viebäck* in Småland.

The Riksdag has defined the principle that training instead of punishment shall be adopted even in cases where offenders of 15 to 18 years have rendered themselves liable to a sentence of hard labour. The investigation of this question has been entrusted to the Poor Law Committee, which will no doubt deal with it in connection with the revision of the legislation providing for the care of children delegated to that Committee.

As regards the treatment of juvenile offenders, the trend of opinion in Sweden is clearly towards educative rather than punitive measures. This is shown, for instance, by the opinions expressed by Professor J. C. W. Thyrén in his treatise

entitled *"Straffets sociala uppgift"* (The Social Mission of Punishment), being Part I of his big work *"Principer för en strafflagsreform"* (Principles of Penal Law Reform).

Popular Education.

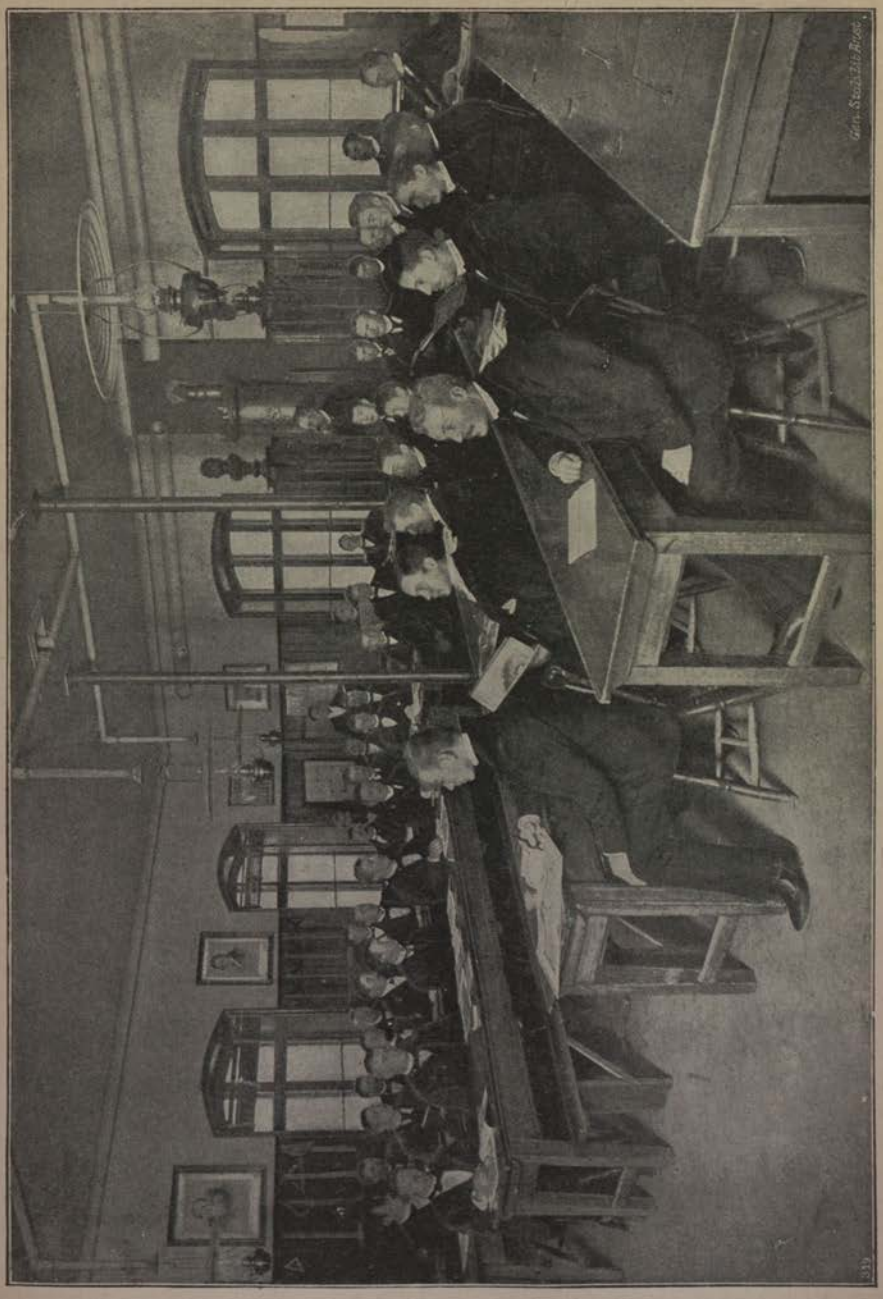
This section will be devoted to that work which aims at extending the benefits of education to the People. It will deal with the People's High Schools *(folkhögskolor)*, with voluntary educational work among grown up men and women engaged in various occupations, particularly with that educational work which takes the form of *popular lectures* and *free libraries.*

The "people" must be understood to mean not merely the working classes or the lower ranges of society, but also the layman in contra-distinction from the savant, though indeed the endowments made in aid of popular education were intended at the outset mainly for the poorer classes.

The **Folkhögskolor,** or People's High Schools, are a species of educational establishments that exist only in the Scandinavian countries and in Finland. Their aims are, "to impart a good general education to grown up young men and women; the teaching shall embrace the humanities and the sciences, and those subjects shall be taught in such a manner as to stimulate independent thought, and exercise a good moral influence on the lives of the pupils. Above all, they shall learn to know their own country, its history, its present social structure, and its spiritual and material recources. Finally, the knowledge imparted shall be such as will be of real use in practical life."

This movement originated in Denmark about the middle of the nineteeth century. Denmark was at that time in a very precarious situation with regard to her neighbour, Germany. This led — on the principle that "knowledge is *power*" — to the utmost efforts being made in Denmark to raise the standard of national culture. In Sweden the *folkhögskolor* were the sequel to the revival of municipal self-government in 1862 and the reorganization of the Riksdag in 1865. These measures, by increasing the social importance of the People, created a demand for a higher general education for the People. Among the founders of these establishments the following names merit to be singled out for mention: Ola Andersson of Nordanå, afterward member of the Riksdag, Dr O. Pehrsson-Bendtz, C. Bergman of Vinslöv, a clergyman, Sven Nilsson of Everöd and Jonas Andersson of Häckenäs, both members of the Riksdag, August Sohlman, editor, and Dr O. Ålund. The first school of this kind was opened in 1868 at Vilan in Skåne. That school, which is still in existence, may, in many respects, be regarded as the mother of all the others. Its Principal has been from the very first to 1908 inclusive, Dr L. Holmström (at present Dr E. Ingers.

At the present time Sweden possesses 44 *folkhögskolor,* one or more in each län, the largest number being in Skåne. The *folkhögskolor* are, as a rule, located in the country. Most of them now have their own premises, with accommodation for the teachers and some of the pupils; the rest



At the People's High School at Vilan, Skåne.

live in farms in the vicinity. Several of the schools have gymnastic halls which also come in use as halls for large meetings.

Most of the schools have been from the outset private enterprises, but they have, almost in every case, received aid from public funds, the County Councils *(landsting)*, the Provincial Agricultural Societies *(hushållningssällskap)*, the State. A board of managers is appointed by the subsidizing authorities, but considerable power is laid in the hands of the Principal *(föreståndare)*, on whose personal qualities the success of the school greatly depends. There is no fixed syllabus of instruction, and there is no final examination, except in the form of practical exercises in the subject taught.

Teachers and pupils. The Principal is usually a university man; the other teachers (two to five in each school) are university graduates, engineers, agriculturists, or officers. The pupils admitted to these schools are youths who have reached the age of 18 (the average age is from 20 to 22), who have passed through the elementary school, and have a good character. There is no entrance examination. In 1912 the number of male pupils was 1 194.

The Teaching. There may be either one, or else two courses; if the latter, the courses are widely different in character. The majority of the pupils take only the first course. The instruction takes the form chiefly of popular lectures, alternating with questions, reading, and discussion of the texts, demonstration and explanation of teaching material (object lessons), written exercises, etc; moreover, in order to give the pupils some insight into the machinery of administration, deliberations are got up on the exact pattern of ratepayers' meetings and meetings of executive committees. According to the average figures of 1905 (since which time no important changes have taken place) 46 per cent of the teaching consisted of *general* subjects: history, literature, political economy, art lectures, state and municipal administration, geography, science, hygiene, elocution, singing and social evenings; whereas 54 per cent of the teaching hours were allotted to subjects of a more *practical* kind: Swedish grammar and composition, arithmetic, book-keeping, copy-book writing, drawing, geometry, surveying, levelling, and (in some cases), agriculture and sloyd.

The *second course* is of a more strictly practical nature: it usually includes agriculture, cattle-breeding, and forestry. In several schools this second course is converted into an *agricultural course* pure and simple; in this case, there is a State grant in aid of this instruction. See the section: Agricultural Education.

There are also courses of a similar kind for *women*. The courses for men had from the outset been carried on during the six winter months (from November to April); the idea thus suggested itself quite naturally that the summer should be used for courses for women. This idea was first carried into effect at Vilan in 1873, and it was afterwards generally adopted. As a rule, these courses are superintended by the principal of the men's school and his wife, with the assistance of an adequate number of the other masters and of specially appointed women teachers.

The total number of women pupils in 1912 was 1 224. The age is usually from 18 to 20. The subjects taught are: Swedish, history, geography, nature knowledge, hygiene, household economy, arithmetic, book-keeping, writing, sing-

ing, and various kinds of needlework and weaving. In 1905 34 per cent of the teaching hours in the schools for women were devoted to *general* subjects, 66 per cent being allotted to subjects of a more *practical* character. — In some places the women's school has been expanded into a school of household management, with cookery courses, short courses in fruit-growing and fruit-preserving, various kinds of domestic industries, etc. In some of the more modern people's schools in Norrland the women's course goes on during the winter simultaneously with that of the men, and in some subjects both sexes are taught together.

Subsidies. State grants have been made in aid of the *folkhögskolor* since 1872. Since 1913 the grant is up to 4 500 kronor for a school which has a course of at least 20 weeks; up to 2 400 kronor for a women's school which has a course of at least 12 weeks; up to 2 400 kronor for a women's course which goes on simultaneously with the men's course for at least 20 weeks and with special instruction in those subjects, where it may be necessary; for a second course up to 2 500 kronor at a *folkhögskola* which has a course of at least 20 weeks, and up to 1 500 kronor at a women's school which has a course of at least 12 weeks, provided that the number of pupils in this second course amounts to at least a fourth of the number of pupils in the corresponding first course; for a parallel course up to 1 500 kronor at a *folkhögskola* which has a course of at least 20 weeks, and 1 000 kronor at a women's school which has a course of at least 12 weeks. In order to obtain a State grant, the school must also be subsidized by county councils, by communes, or by private persons. At present the State grant may exceed the aggregate of the local grant and of the school fees by 2 000 kronor for a men's course, and by 1 000 kronor for a women's course. A grant of 3 000 kronor is made in aid of the training of teachers, male and female at the *folkhögskolor*. All these grants proceed from the proposed grant in aid of *folkhögskolor*, which at the Riksdag of 1912 was raised from 220 000 to 339 200 kronor.

Since 1883 an annual grant has been made in aid of scholarships for pupils of small means; at the 1912 Riksdag this grant was raised from 35 000 to 80 000 kronor. It was made on the basis that scholarships of 125 kronor should be awarded to pupils of no means, and of 75 kronor to pupils of small means taking a course of 20 weeks, and of 75 and 45 kronor respectively with a course of 12 weeks. The fees paid by the pupils range from 15 to 80 kronor.

The 1912 Riksdag, which so greatly raised the State grant to the *folkhögskolor*, also appointed *Government inspector* to assist the Government in the distribution of the grant, to see that it be properly applied, and to advise and assist the *folkhögskolor* in educational and financial matters. Before a principal or a permanent teacher is appointed or dismissed by the school board, the inspector's opinion shall be consulted.

In most of the *folkhögskolor* the old pupils have formed a *union (folkhögskoleförbund)*, which meets twice a year at the school in order to attend lectures and to discuss topics of general interest. Moreover, public lectures and "patriotic" festivals are often held at the school, and are numerously attended by the local population. Further, some of the teachers give lectures to "lecture societies" in the places round about. Several of the schools hold what are called "*hembygdskurser*", a kind of "local" extension courses, for the benefit of former pupils, elementary and infant school teachers from the vicinity, and others who may be interested; these courses usually last from 8 to 14 days; the lecturers are university professors or grammar school masters. Besides this, there are special courses for "small farmers" *(småbrukare)* men or women, and so forth. Some of the *folkhögskolor* have also organized evening schools.

The above facts show that the work done by the *folkhögskolor* for the education of the People is, in many respects, of very considerable importance.

Popular Lectures. The aim of these lectures is to impart knowledge, to incite to independent study, to arouse new thoughts and new interests, and to form a profitable recreation for leisure hours. They are intended to serve as a preparation for the reading of texts, and to suggest suitable literature. In both matter and form they should be accomodated to the mental range of the auditors. They may deal with any subject, except vexed questions of politics or religion.

These lectures have been organised all over Sweden, both in country and town by *föreläsningsanstalter*, "lecture institutions", that is by workmen's institutes and lecture societies. Lectures of this kind are also arranged for at military camps where the conscripts are trained.

The Stockholm Workmen's Institute (Arbetarinstitut), the first of its kind in Sweden, was founded in 1880. Its promoter was Dr Anton Nyström.

State grants in aid of "lecture institutions" have been distributed since 1885. A sum of 15 000 kronor was granted for that year by the Riksdag, on certain conditions: the chief of these conditions being that the institute applying for the State grant should show that it received from the municipality (commune) and (or) from other quarters an amount at least equal to the grant applied for. This State grant has several times been raised: in 1914 it was 290 000 kronor. The number of these State-aided establishments has increased from 8 in 1885 to 124 in 1900 and to 549 in 1914. The highest State grant made in 1913 to a "lecture institution" was 2 900 kronor, the lowest 180 kronor. In the course of the last-named year over 11 000 popular lectures were held. The average number of auditors in some of the "institutions" is stated to be from 400 to 500, in others from 40 to 50. In most of them the average is about 100 to each lecture.

Out of the above-mentioned State grant, a sum not exceeding 8 000 kronor may be applied to travelling expenses for lecturers in out-of-the-way and financially not very successful "institutions".

In order to enable the lecture establishments to procure suitable lecturers, *central bureaus* have been erected, whose business it is to act as links between the establishments and the lecturers. The first of these central bureaus was founded at Lund in 1898, the second at Stockholm in 1902, and the third at Gothenburg in 1903. These central bureaus are since 1906 in receipt of State aid — for 1913 altogether 8 300 kronor. They publish annually catalogues of lecturers and subjects for lectures recommended by them, together with lists of suitable literature on the various subjects. These catalogues are distributed gratis to all the "lecture institutions". Besides these central bureaus, there are in certain län associations called *föreläsningsförbund*. Their chief business is to arrange circular tours for the lecturers to all the establishments in the län. Some of these associations are in receipt of a minor State grant. As a rule, the lecturer receives for each lecture a fee of 25 kronor, besides his travelling expenses. If travelling expenses, hire of lecture halls, and other expenses are added to the lecturer's fees, the aggregate expenses for each lecture, on an average for the whole country, may be estimated at close on 40 kronor.

Each of these *föreläsningsanstalter* is governed by a board elected by itself; and each of them has an *inspector* appointed by the governor of the län, whose business it is to see that the conditions stipulated by the State in making the grant are duly fulfilled. From November 1911 a special "reporter" *(föredragande)*

to the Ecklesiastikdepartementet (Ecclesiastical Department) has been appointed. It is his duty also to advise on matters concerning lectures and lecturers (*lecture expert*).

People's Libraries. The tendency nowadays is for the lectures and the libraries to be brought into closer connection with each other: the *lectures* interest the people in certain books connected with the subjects lectured on, and those books are supplied by the *libraries*.

The old parish libraries which had long existed in many places were rummaged in 1900. It was found that they either consisted of the decayed remnants of originally good collections, or that the books were in good condition, but hardly ever used.

However, there were a few libraries, supported by the parish or by private donors, which supplied the local country population with really good literature. People's libraries of some size have been established in a few towns. One was founded at Gothenburg in 1861: it was endowed by Mr James Dickson. It now has two offshoots, the main library being housed in a handsome and well arranged building. The town libraries at Malmö, Norrköping, Gävle, and Lund are very good in their line. At Stockholm the town subsidizes five people's libraries, as well as a kind of circulating library managed by the Association for the Education of the People. The library in Folkets Hus is also supported by the town. Besides this, there are ten libraries, large and small, supported by the parishes. In 1911 the municipal grant made to the Gothenburg library with its two branches was 12 000 kronor. These libraries together possessed 18 750 volumes, and there were 174 437 loans of books to be taken home *(hemlån)*. In 1913 the grant made by the town of Stockholm to the five libraries of the Association for the Education of the People was 18 000 kronor (18 000 volumes, and 99 000 "loans"), and to the Workmen's Library and its branches 12 000 kronor (25 900 volumes and 74 000 "loans"). The Vestry Meetings had made an aggregate grant of nearly 50 000 kronor to the ten parish libraries of the capital (altogether 47 000 volumes and 195 000 "loans").

The libraries in the larger towns, which have latterly been gaining increased interest on the part of the general public and increased favour on the part of the subsidizing authorities, can scarcely reckon on aid from the State. But libraries in the smaller towns and in the rural districts can.

State aid to the people's libraries was first resolved on by the Riksdag in 1905, when 60 000 kronor were granted to be distributed to each library at the rate of at most 75 kronor a year. In 1912 the grant was 170 000 kronor: maximum 400 kronor to people's libraries, 150 to school libraries, and 15 000 to each of those big associations called *riksförbund* which embrace the whole country and have at least 20 000 members (trade unions, temperance societies), provided they possess adequately organized "study circles". To the people's and to the school libraries the State makes a grant equal in amount to the local grant, and only in the shape of bound books; to the Riksförbund it grants half of the sum which the Association itself has devoted to this purpose.

1 140 free public and school libraries have in 1914 obtained State aid. Out of the *riksförbund*, the Order of Good Templars is at present (December 1914) the only one which possesses adequately organized "study circles" (850 circles with an aggregate grant from the Order itself of about 35 000 kronor). However arrangements have been made among the trades unions for setting on foot an organization of this kind.

Purchase of books. For this purpose there are two State-aided establishments, both of them at Stockholm; one of them, the *Folkbildningsförbundet* (Association for Popular Education), undertakes the purchase of books for the people's and

the school libraries, the other, the Order of Good Templars, for the libraries of the various *riksförbund*. Besides this, there is a grant in aid of "*ambulatory libraries*" *(vandringsbibliotek)* made by the State to the Folkbildningsförbundet, which in December 1914 had 130 of these "ambulatory libraries" (which are removed wholesale from one place in the country to another, temporarily, on hire). The State also subsidizes the above-named central bureaus at Lund and Gothenburg (from 1913) and the people's library at Luleå.

In the Ecklesiastikdepartementet there are since 1913 two *library experts (bibliotekskonsulent)*, who report to the Department, advise the general public as to books etc., and superintend the State-aided libraries. At present a complete *catalogue* of the literature in the people's libraries is being drawn up. This catalogue will afterwards be published by the Ecklesiastikdepartementet, and will serve as a guide to these libraries in selecting the books to be received by way of State aid.

Other Measures. State grants are also made in aid of *summer courses* at the universities of Uppsala, Lund, Stockholm and Gothenburg. These summer courses are arranged so as to come back to the same place every four years. *Temperance courses* are also subsidized by the State; these courses are held in different towns and usually last from 4 to 6 days in each place; they visit about 8 or 10 places in the course of a year.

The workmen's unions and temperance societies have latterly come to avail themselves more and more of lectures and books as means of education. The have organized popular lectures and erected libraries for their people — and this without any aid from public monies. The study circles referred to above are a pleasing symptom of an intense and enduring interest in education.

* * *

Verdandi and *Heimdal* and other students-unions at Uppsala and Lund have long taken an active and leading part in the people's libraries and popular lectures movements, but they do not now receive State aid for this purpose: the last resolution of the Riksdag in these matters was that the State grants should be devoted exclusively to the organizing and "linking" institutions. On the other hand, these two students' unions continue to disseminate popular booklets, which they have edited in an extremely creditable manner. Verdandi which was founded in 1888, has published (till 1912) 185, and Heimdal, which was instituted in 1893, has issued 102 of these admirable booklets.

The People's Library of Gothenburg.

2. SECONDARY EDUCATION.

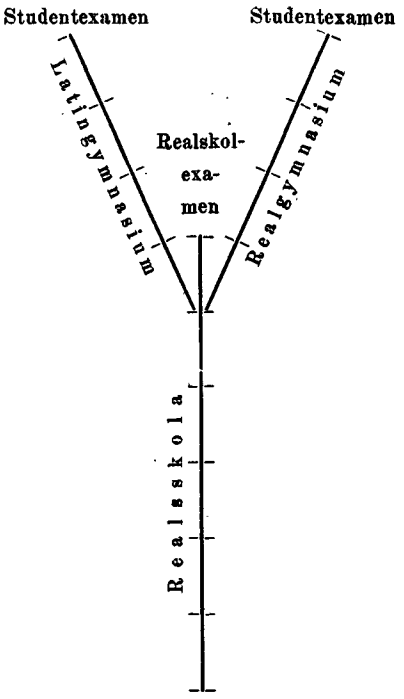
This section will deal with the State Secondary schools for Boys *(allmänna läroverk)*, and the parallel Communal *(kommunala)* and Private Schools which receive State grants or other aid, and moreover with the Girls' Secondary schools.

State Secondary Schools for Boys.

The oldest schools in Sweden, as in most countries, were the mediæval *monastery schools* and *cathedral schools* and the *town schools* maintained by the burghers. As the monastery schools were abolished at the Reformation, it is out of the two latter classes that the present State secondary schools were gradually evolved.

In the time of Gustavus Adolphus were founded the first higher schools, or *gymnasiums;* the oldest of these was established in 1623 at Västerås by Johannes Rudbeckius. The first School Code was drawn up in 1649 under the influence of Comenius, who had been summoned to Sweden. This Code is considered to be a pedagogical masterpiece; but, as a matter of fact, it was never completely carried into effect, and in many cases not applied at all. In the Code a sharp line of demarcation was drawn between the lower and the higher school, the *trivialskolan* or junior department, and the *gymnasium* or higher department, an arrangement which survived for two centuries. These establishments were almost exclusively training colleges for priests and government officials.

At the beginning of the 19th century, however, complaints made themselves heard with greater and greater insistence against the secondary schools, particularly on the ground that the instruction imparted in them was not suited to the needs of such boys who intended to enter practical careers. The School Code of 1807 provided for a modicum of modern education by giving a larger place on the syllabus of instruction to the mother tongue, mathematics and history, and by introducing into the curriculum natural history and modern languages; also by enlarging the *"skrivarklassen"*, as it was designated in the School Code of 1649, after 1807 rechristened *"apologistklassen"*, which may, *mutatis mutandis*, and on a smaller scale, be compared with a modern class of an English public school. Nevertheless, people went on complaining: what they complained about was that "scholastic education" *(den lärda bildningen)* had suffered, without any compensating improvement in the non-scholastic or *"medborgerliga"* education, that is the education of the common "citizen". The School Code of 1820 endeavoured to solve the problem by erecting two distinct classes of schools, the *lärdomsskolor* (lower and higher) for scholastic education, and *apologistskolor* for the common citizen's education. This system, however, soon encountered a vigorous opposition. It was arraigned of having "encouraged severance on principle", the consequence being that the children were separated too early from one another, and brought up to be "bad citizens". Uniformity and the "spirit of citizenship" ought, the complainants declared, to be the guiding principles in State schools.



(For the meaning of the terms in the above diagram, see the text.)

These conflicting pedagogical principles went on for a long time jostling and clashing, and led up to the remarkable struggle between the exponents of the old and the new systems in the great Education Committee of 1825 to 1828, in which such men as *Agardh, Berzelius, Geijer, Grubbe, Tegnér, Wallin,* had a seat. The Committee's proposal was a compromise to the effect that the different schools were to be "lines", or departments, within the unified school which was the goal of aspiration. In 1849 the different schools were amalgamated into a single kind of educational establishments, namely the *elementarläroverken,* or secondary schools. A variety of circumstances, however, such as bad management, landed the school world in a state of considerable confusion. A tentative piece of legislation three years earlier was followed finally by the Education Act of 1859, which introduced a much-needed order into the chaos of the school world. In pursuance of that act, schools were divided into a *latinlinje,* or classical side, and a *reallinje,* or modern side, from the third class upwards. As the lowest class was abolished in 1869 the classical side subsequently began with the second class. By the Education Act of 1878, which remained in force till 1904, the bifurcation began from the fourth class. The most noteworthy reforms during the latter half of the 19th century were the transference of the *studentexamen,* the university entrance examination, from the universities to the schools (1862), the institution of a *provår,* or "year of probation", for teachers (1865), and the establishment of a "semi-classical" side in which Greek was abolished (1869).

These measures, however, failed to satisfy the claims for a better common citizens' education and towards the end of the century people began vehemently to insist that these claims should be satisfied. What they particularly demanded was that a final examination *(avslutning)* should be instituted for

those scholars who stopped short of the studentexamen, that the bifurcation into two "sides" should be postponed to the beginning of the sixth school year, and that the lower classes of the schools should provide a uniform general education for all the scholars in common, which practically meant the exclusion of Latin in those classes.

These points of view, which had the support of the pedagogical doctrine that specialized education can, and should, be based on general education, came more and more into favour, and finally took shape in the Education Act of the 18th February 1905, which is still in force.

The school organization which was thus established may by illustrated by the accompanying diagram.

The most notable changes in the latest school programme were the arranging of some of the lower schools as coeducational, the introduction of extensive rights of option in the gymnasium, higher school fees, the institution of a central State board for secondary schools, and in connection with this their emancipation from ecclesiastical rule, and, above all, a syllabus of instruction based on more modern principles.

Characteristic features of the Swedish secondary schools for boys are a very firm and uniform organization combined with a great range of individual liberty for the teachers, "corporate" decision in school matters, comparatively low school fees, long holidays, the thorough "scientific" training of teachers, and last but not least, the facilities afforded for children of all social ranks and conditions to partake of their instruction.

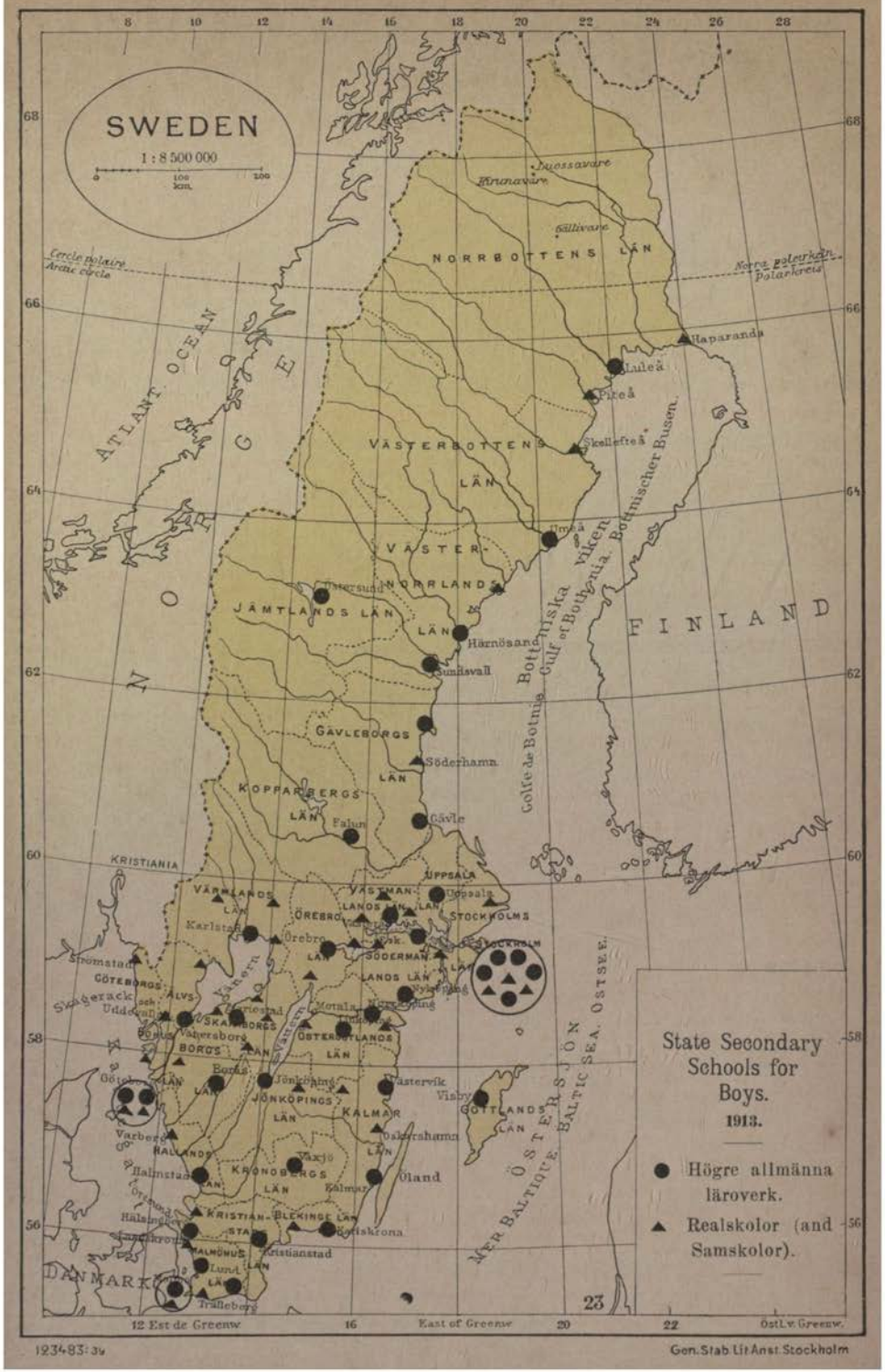
Classification and aims of the State Secondary Schools for Boys. In pursuance of the Education Act of the 18th February 1905 the Secondary schools are classified into two groups, *Realskolor*, or modern schools (independent), and *Högre allmänna läroverk*, comprising a *realskola* and a *gymnasium*.

The *realskola* consists of six "one-year" classes (classes 1 to 6), its final examination being the *realskolexamen*. The *Gymnasium*, which is superposed on the five lower classes of the *realskola* and is divided into two "sides", the *realgymnasium* and the *latingymnasium*, consists of four "one-year" classes called "rings" (rings I to IV), its final examination being the *studentexamen*. The sixth class of the *realskola* is thus, in point of the scholars' age, parallel with the first ring of the gymnasium.

The first class of the *realskola* is the lowest, being intended for boys of the age of 9. The *realskolexamen* should normally be taken at the age of 15 or 16, and the *studentexamen* at the age of 18 or 19.

The aim of the *realskola* is to provide a common citizens' education of wider scope than that of the elementary school. The aim of the *gymnasium* is, over and above the general education imparted in the *realskola*, to prepare the scholars for the university, or equivalent educational establishments.

The *realskolexamen* entitles those who have passed it to admission to the postal and telegraph training courses, certain technical, agricultural and forestry schools, to appointments in the State railway service, the Post-Office Savings-Bank, and so on. The *studentexamen* taken in any



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of the two departments ("sides") entitles those who have passed it to matriculation at the universities, and is the condition (in certain cases conjoined with a stipulation as to its being taken in the one or other of the departments of the school) for admission to various higher colleges.

Number of schools and where located. There are 77 secondary schools for boys *(allmänna läroverk):* 38 of these are *högre allmänna läroverk,* higher schools comprising both a *realskola* and a *gymnasium,* and 39 independent *realskolor.* Out of the latter 18 are coeducational schools *(samskolor).* Among the State schools there is no independent *gymnasium.*

Out of the *högre allmänna läroverk,* the higher schools, 29 contain both a *realgymnasium* and a *latingymnasium,* whereas 5 have only a *realgymnasium* and 4 only a *latingymnasium.* One of the higher schools, namely *Nya elementarskolan* at Stockholm, is especially marked out for pedagogical experiment, and is therefore called *Statens provskola,* that is, the State Experimental School.

The higher schools are as a rule located in cathedral cities, provincial capitals, or other important towns. The coeducational schools are usually in smaller towns. None of the State schools are in the country.

In certain quarters endeavours are being made to get the *realskolor* expanded — at the local expense, to begin with — into higher schools, and moreover, to convert the schools which have only one department *(realgymnasium* or *latingymnasium)* into "complete schools", comprising both departments.

The largest higher schools have from 600 to 700 scholars, the largest independent *realskolor* from 300 to 400.

The location of the schools is shown in detail by the accompanying map.

The Government of the schools. The central government of the State secondary schools and equivalent educational establishments receiving State aid, is since 1905 in the hands of a Supervisory Board, *Kungl. Läroverksöverstyrelsen (Royal Board of Secondary Schools).* This Board is entrusted with the supervision of the schools: it deals with matters of school curriculum, discipline, training of the teachers, appointment of teachers, and cases of dereliction of duty on the part of the teachers etc. It particularly devolves on the members of the Supervisory Board to inspect the schools personally, and in the course of their inspection to furnish instructions and advice.

The Supervisory Board is composed of a *Director-in-Chief (överdirektör),* in the capacity of President, and four *läroverksråd,* or school councillors, as members. They are appointed from among the permanent teachers of the secondary schools, the Higher Training College for Women (also subject to the supervision of the Board), or the universities and should, if possible, represent different subjects of instruction.

Matters at issue, except in certain cases where the Director-in-Chief has the sole right of decision, are determined corporately: every member has a vote.

Certain matters are decided finally and officially by the Supervisory Board, others are passed on to the *Ecclesiastical Department*, in order ultimately to be laid before the Government. The Ecclesiastical Department has a section called *the Bureau of Higher Education*, which is charged with the treatment of school matters.

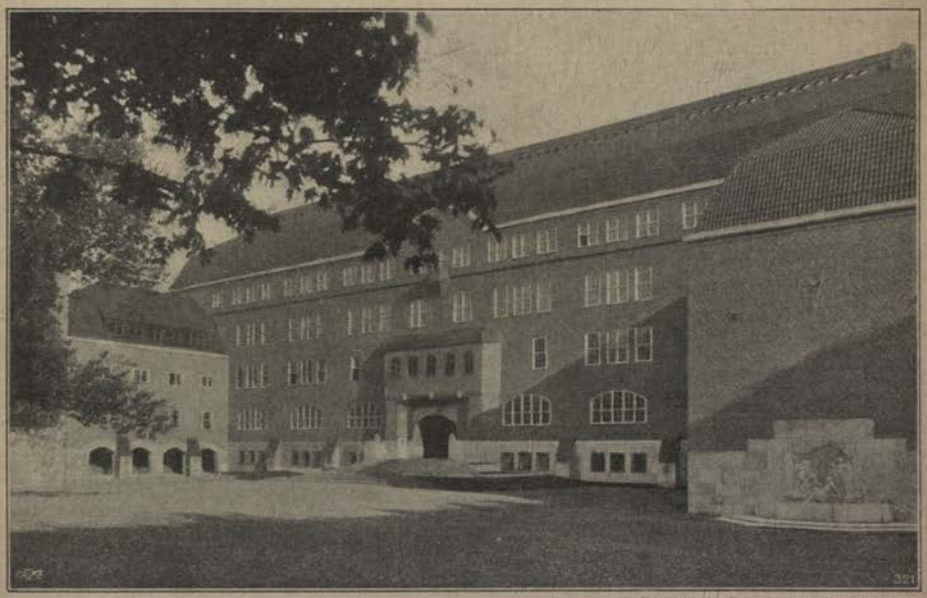


Photo. A. Blomberg, Stockholm.

The Högre Reallläroverket å Östermalm (Higher State Secondary School), Stockholm.

Moreover, in every diocese the bishop, in the capacity of *eforus*, exercises superintendence over the local secondary schools and particularly over the religious instruction. If he has any complaint to make, he lodges it with the Supervisory Board. He appoints an *inspector*, as his representative, for each higher school outside the cathedral city, and one for every *realskola* for boys. In every State coeducational school there is a local board, whose president is nominated by the *eforus*. This board, called *samskolestyrelse*, has besides the duties which devolve on the inspector in other schools, other duties, chiefly of a financial nature.

In the capital a special board of directors *(direktion)* exercises the functions of the eforus for the local secondary schools. It also manages certain financial matters for these schools.

At the head of each school there is a headmaster *(rektor)*, appointed by Government at the proposal of the Supervisory Board, for a certain term, usually five years at a time.

Time-table for the Realskola.

	Class 1	2	3	4	5	6
Religion	3	3	3	2	2	2
Swedish	5	5	6	4	3	3
German	6	6	6	4	4	3
English	—	—	—	5	5	4
History	2	3	3	3	3	4
Geography	2	2	2	2	2	2
Mathematics	4	5	5	5	4	5
Biology	2	2	2	1	2	2
Physics	—	—	—	2	1	2
Chemistry	—	—	—	—	2	1
Writing	2	2	1	—	—	—
Drawing	1	1	2	2	2	2
Total number of hours a week	27	29	30	30	30	30

At the side of the rektor is the *läroverkskollegiet,* or the corporate body of teachers, who decide on matters of teaching, discipline, finance, and so on; the chairman is the eforus, or the inspector, if either of them is present, otherwise the rektor.

Teaching. The school year begins at the end of August and lasts 38 weeks — apart from the time allotted for the class and entrance examinations of the autumn term (usually from three days to a week) — divided into *two terms,* the autumn and spring terms. The autumn term usually lasts 18 weeks, the spring term 20 weeks, including, however, one week for Easter holidays and three days for Whitsuntide holidays.

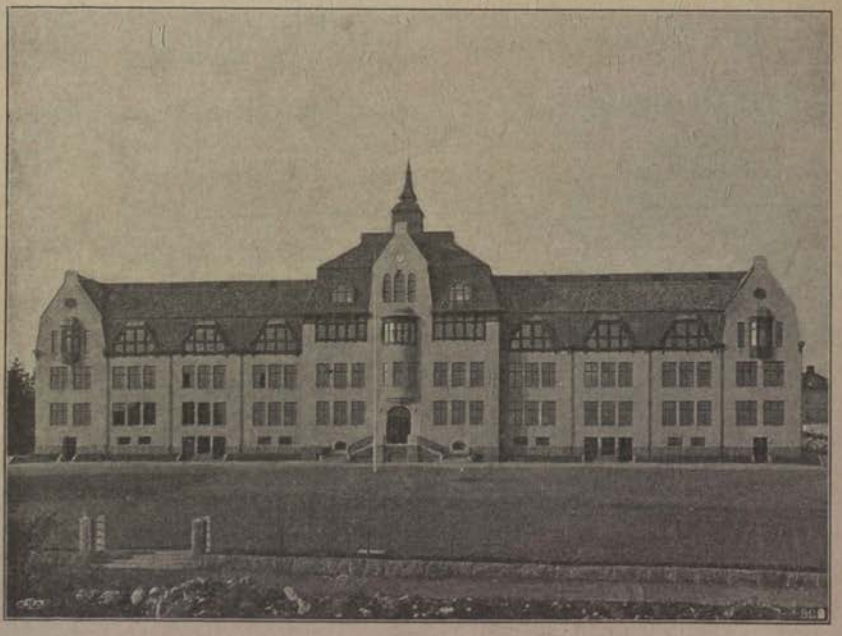
In classes 1 to 5 of the realskola all the scholars undergo the same course of teaching. Then those who intend to take the realskolexamen go on the 6th class of the realskola, whereas those who intend to take the studentexamen go over to the realgymnasium or to the latingymnasium.

TABLE 64. *Time-table for the Gymnasium.*

Subjects	The Realgymnasium				The Latingymnasium			
	Ring I	Ring II	Ring III	Ring IV	Ring I	Ring II	Ring III	Ring IV
Religion	2	2	2	2	2	2	2	2
Swedish	3	2	3	3	3	2	3	3
Latin	—	—	—	—	6	6	6	6
German	2	2	2	2	2	2	2	2
English	3	3	2	4	2	2	2	2
French	—	4	4	4	—	4	4	4
History	3	3	3	3	3	3	3	3
Geography	2	1	—	—	2	1	—	—
Elements of Philosophy	—	—	1	1	—	—	1	1
Mathematics	7	6	6	6	5	4	4	5
Biology	1	2	2	1	1	2	2	1
Physics	3	2	4	3	2	1	2	2
Chemistry	2	2	2	2	—	—	—	—
Drawing	2	2	2	2	2	2	2	2
Total number of hours a week	30	31	33	33	30	31	33	33

Outside of the regular school hours there is voluntary French (2 hours a week in each of the classes 5 and 6), and in the coeducational schools voluntary needlework for the girls (2 hours in each class). Moreover, voluntary laboratory exercises in physics, chemistry, and biology, and instruction in drawing (2 hours) and sloyd (2 hours) can be arranged for.

In the three higher classes of the coeducational schools the girls may be dispensed from German or English, and from certain parts of mathematics. This does not prevent them from being moved up to a higher class, but it does prevent them taking the realskolexamen in the normal course. — Boys and girls are taught together in all subjects but gymnastics, in which, as a rule, the higher classes, and often also the lower, are divided into separate divisions for girls and boys.



The Högre Allmänna Läroverket (Higher State Secondary School), Hudiksvall.

Those scholars in ring III who are taking Greek have 7 hours a week in that subject instead of mathematics (4 hours) and in drawing (2 hours), besides which they have only one hour English. Scholars in ring IV who are taking Greek have 7 hours a week in that subject instead of mathematics (5 hours) and drawing (2 hours).

Outside the regular school hours there is voluntary drawing; voluntary laboratory exercises in physics, chemistry, and biology can be arranged for.

In the two highest rings the scholars are allowed to give up one subject, or two subjects, on the time-table, provided that in the IVth ring they do not take up together more than 6 hours a week. They have not the right, however, to give up Religion or Swedish.

The *courses of instruction* in the various subjects are laid down in their main outlines in the official programme of instruction, to which are also appended, in considerable detail, *methodical directions.*

The above time-tables are followed in all the State secondary schools in Sweden. Departures from them, however, may occur on account of pedagogical experiments. Thus at present an experiment is being made with a new language, namely Russian, at the State Experimental School, and with English beginning in the first class of the realskola at the said school and at the Högre reallläroverket at Gothenburg.

The school hours are 5 or 6 lessons a day of 45 minutes each. Each day is begun with morning prayer. The interval for breakfast is at least one hour and a quarter. At each school there is a *school doctor;* in the New Education Act particular stress is laid on school hygiene.

Outside of the regular school hours there is instruction in *singing, gymnastics,* and *the use of arms. Singing* is in the five lower classes obligatory for scholars who have aptitude for it, in the upper classes voluntary: two hours a week is the maximum. Voluntary instruction is also imparted in *instrumental music* (the organ, and string instruments). In all classes half an hour a day, or 4 hours a week, is allotted to gymnastics. In the 6th class there is also instruction in *fencing (foils* and *singlestick)* 2 hours a week. Occasionally open-air *games,* under the teacher's supervision, take the place of gymnastics. The boys in the 6th class and in the *gymnasium* classes have *shooting* instead of gymnastics for 18 days at most, at the beginning of the autumn term, or altogether 60 hours. During this time the boys are let off a certain number of other lessons, so as never to have more than 7 hours a day.

A new school syllabus of instruction in gymnastics and singing is in course of preparation.

New scholars are admitted only at the beginning of the term; the great majority enter at the commencement of the school year, that is, in the autumn term. All the new scholars have to take an entrance examination, except those who come from other schools and wish to enter the same class to which they belonged before. Even the latter, however, have to pass an entrance examination for admission to the highest ring. For admission to the first class (the lowest) there are certain "requirements" which should not exceed what is taught in the first class of the elementary school; this elementary examination may be taken in the previous spring term.

At the end of each spring term there is a "general remove". All the scholars who do not fall below the standard are then moved up to a higher class, without any special examination. Those who have failed to satisfy the requirements at the end of the spring term, may, if they so desire, be examined for remove to a higher class at the beginning of the autumn term; if they acquit themselves well in the examination, they will obtain their remove. Those who have been two years in the same class without having been moved up at the end of that period, will not be allowed to continue at a State school.

For the scholars in the highest ring, who have sent in their names, the *studentexamen* is held at the higher schools annually between the 10th April and the 21st June. Those who have scratched or been rejected, are allowed to go up again at the end of the autumn term. Examination commissioners called *censors,* are appointed by Government to superintend each examination: these are mostly university Professors. (The student-examen is not only held at the State schools, but also at some private schools: see below.)

The examination is partly written, partly oral. The *written examination,* which in both "departments" includes Swedish, modern languages, and mathematics,

TABLE 65 a). *Number of Scholars in the State Secondary Schools and Pedagogier*[1] *up to 1905 inclusive.*

Average figures for the autumn terms in the years	Total number		Classes I—III	Classes IV and V		Classes VI: 1—VII: 2			Classes IV—VII: 2	
	Altogether	Per 10 000 of pop.		Classical side	Modern side[2]	Classical side A	Classical side B	Modern side	Classical side	Modern side
1875	12 717	29·1	6 844	1 928	1 356	1 303	893	393	4 124	1 749
1876—80 . . .	14 376	31·9	7 393	2 159	1 593	1 307	1 183	741	4 649	2 334
1881—85 . . .	14 986	32·5	7 094	2 364	1 626	1 263	1 848	791	5 475	2 417
1886—90 . . .	14 507	30·6	7 116	1 897	1 874	910	1 843	867	4 650	2 741
1891—95 . . .	14 914	30·9	7 340	1 700	2 467	701	1 523	1 183	3 924	3 650
1896—00 . . .	16 578	32 9	7 818	1 619	2 921	825	1 561	1 834	4 005	4 755
1901—05 . . .	19 405	37·1	8 734	1 106	4 197	714	1 718	2 936	3 538	5 402

[1] *Pedagogi(er)* was the designation applied to schools with two classes or only one, which after 1904 were either abolished or turned into realskolor. — [2] Includes scholars in the 4th class in the autumn term of 1904 and scholars in the IV and V classes in the autumn term of 1905: during this period of transition they were, in fact, not taught Latin. In the average figures for classes IV to VII: 2 (kol. 10 and 11) these scholars are not taken into account at all.

and in the *realgymnasium* also physics, in the *latingymnasium* also Latin, is held several weeks before the viva voce, and lasts four or five days: it takes place simultaneously at all the schools. The examination papers are drafted by the body of *censors*, the Supervisory Board *(Överstyrelsen)* having the final decision as to their selection. Only those who have passed the written examination are entitled to take part in the *oral*. The viva voce is held by the teachers in the highest ring of the school, each teacher examining in his own subject; the scope of the examination is determined by the censor, who also has the option of conducting it personally. In order to take the studentexamen, one must pass in nine, or in certain cases ten, subjects out of the eleven first subjects on the time-table of ring IV.

"*Privatister*", i. e. privately coached outsiders, undergo the oral part of the final examination before special commissions — at least three — in different places of the country. The examination takes place during the two periods set aside for this examination generally, one in the spring, the other in the autumn. The written examination is held at certain secondary schools, which are selected by the Supervisory Board, simultaneously with the examination of pupils from these schools. A special commission in the Capital decides with regard to the result of this examination.

The *realskolexamen* is held at the school for scholars in the sixth class of the realskola, and for any *privatister*, or "outsiders", who have

TABLE 65 b). *Number of Scholars in the State Secondary Schools after 1905.*

Average figures for the autumn terms in the years	Total number		Realskola		Gymnasium	
	Altogether	Per 10 000 of pop.	Boys	Girls	Realgymn.	Latingymn.
1906—10	21 923	40·38	15 450	931	3 209	2 333
1911	23 009	41·37	15 814	1 121	3 451	2 623
1912	23 613	42·13	16 133	1 138	3 582	2 760
1913	24 129	42·79	16 355	1 135	3 748	2 891

TABLE 66 a). *Number of "Passes" (godkända) in the Mogenhetsexamen.* [1]

Annually	Total number			Per 100 000 of pop.	Out of total from		From State schools in		
	Male	Female	Total		State schools	private schools, etc. [2]	Classical side A [3]	Classical side B [4]	Modern side
1871—75	612	2	614	14·36	557	57	.	.	65
1876—80	570	4	574	12·75	470	104	266	137	67
1881—85	773	11	784	17·02	665	119	268	263	134
1886—90	760	27	787	16·60	658	129	209	327	122
1891—95	665	27	692	14·33	575	117	145	285	145
1896—00	801	49	850	16·89	701	149	169	273	259
1901—05	1 048	85	1 133	21·66	907	226	170	328	409
1906—09	1 401	143	1 544	28·57	1 178	366	141	382	655

[1] The *studentexamen* was at one time, prior to the reorganization of 1905, called *mogenhetsexamen*. Examinations in accordance with the old regulations (*mogenhetsexamen*) were held up to 1909 inclusive. — [2] Scholars from private schools with *dimissionsrätt* (that is schools authorized to hold officially recognized final examinations) and *privatister*. — [3] "Classical side" with Greek. — [4] "Classical side" without Greek.

sent in their names: the procedure is much the same as in the student-examen, though much simplified, and with the important difference that there are no censors. The written examination consists of papers in Swedish, German, English, and mathematics *(provräkning)*. — (This examination is held not only at the State schools, but also at a number of private and communal schools.)

Attendance. As will be seen from Table 65, the number of scholars who attend the State secondary schools has increased pretty considerably since 1890. It is also evident that the numerical status of the two "sides" has been reversed: the modern side has increased, the latin side diminished.

The number of those who took Greek was: autumn term 1906: 441; aut. t. '07: 285; aut. t. '08: 242; aut. t. '09: 253; aut. t. 10: 249; aut. t. 11: 236; aut. t. 12: 276; aut. t. 13: 310. Before the reorganization of the school system into its present form, Greek was taught in the four highest classes.

The average age at which the *mogenhetsexamen* was taken was for scholars from the State schools 19·31 from 1901 to 1905, 19·43 from 1906 to 1909

TABLE 66 b). *Number of "Passes" (godkända) in the Studentexamen.*

Year	Total number			Per 100 000 of pop.	Out of total			From State schools	
	Male	Female	Total		from State schools	from private schools	privatister	real-gymn.	latin-gymn.
1910	1 357	187	1 544	27·96	1 134	313	97	637	497
1911	1 339	196	1 535	27·60	1 107	335	93	652	455
1912	1 467	218	1 685	30·07	1 185	403	97	675	510
1913	1 535	245	1 780	31·57	1 249	419	112	675	574

Note. "Private schools" here designates those which have the right to hold the official *studentexamen*.

TABLE 67. *Number of "Passes" (godkända) in the Realskolexamen.*

Year	Total number			Per 100 000 of pop.	Out of total			
	Male	Female	Total		from State schools	from communal schools	from private schools	privatister
1907	1 085	63	**1 148**	21·35	998	—	—	150
1908	1 121	129	**1 250**	23·02	956	—	90	204
1909	1 189	219	**1 408**	25·71	1 010	—	122	276
1910	1 176	326	**1 502**	27·20	1 022	22	188	270
1911	1 198	399	**1 597**	28·71	1 015	34	256	292
1912	1 103	402	**1 505**	26·85	930	74	257	244
1913	1 142	454	**1 596**	28·30	908	182	279	227

and (for the *studentexamen*) 19·38 from 1910 to 1911; 19·32 in 1912 and 19·32 in 1913.

The average age at which the *realskolexamen* was taken from 1907 to 1911 was for scholars from the State schools 17·04 for boys and 16·84 for girls; in 1912 16·97 for boys and 16·53 for girls and in 1913 16·95 for boys and 16·42 for girls.

For *privatister* the average age is somewhat higher.

Teachers. In the State secondary schools there are, besides the rektor, or head-master, three ranks of permanent teachers: (a) *lektors* (only in

TABLE 68. *Figures showing the Professions or Careers entered on by a large number of the Scholars from the State Schools after passing the Studentexamen.*

Year	To university etc.	To higher technical schools	To military profession	To business or commercial colleges	Number of "students"[1] at the State schools
1901	270	137	131	95	820
1902	292	98	137	102	846
1903	314	119	140	98	895
1904	310	122	181	103	933
1905	369	107	189	109	1 043
Total	**1 555**	**583**	**778**	**507**	**4 537**
Average for 5 years	311	117	156	101	907
1906	367	127	166	147	1 041
1907	444	147	165	152	1 171
1908	476	170	144	149	1 235
1909	525	160	142	151	1 262
Total	**1 812**	**604**	**617**	**599**	**4 709**
Average for 4 years	453	151	154	150	1 177
1910	546	123	131	132	1 134
1911	567	114	117	112	1 107
1912	535	111	144	160	1 185
Total	**1 648**	**348**	**392**	**404**	**3 426**
Average for 3 years	549	116	131	135	1 142

[1] Those who have passed the *studentexamen* are called *student(er)*.

TABLE 69. *Figures showing the Professions or Careers entered on by a large number of the Scholars from the State Schools after passing the Realskolexamen.*

Year	To business or commercial schools	To State railway service	To technical schools	To mechanical industry	To agriculture or agr. schools	To postal service	To banking	Total number of "passes" in the State schools
1908	324	100	76	65	52	48	32	956
1909	323	73	73	61	66	39	30	1 010
1910	369	55	72	70	61	26	24	1 022
1911	293	49	87	70	58	22	22	1 015
1912	308	52	67	49	54	25	23	930
Total	**1 617**	**329**	**375**	**315**	**291**	**160**	**131**	**4 933**
Average for 5 years	323	66	75	63	58	32	26	987

the higher schools, with higher qualifications, and higher salary: masters in the upper classes); (b) *adjunkts,* or assistant masters, with lower qualifications and a lower salary; and (c) *övningslärare,* or instructors, teaching drawing, music, gymnastics, and the use of arms.

In the coeducational schools half the teaching staff consists of *women teachers,* one of whom is called *första lärarinna* or head teacher; she assists the rektor in the management of the girl pupils in the school. In the realskolor female teachers may be appointed as instructors in drawing and music. If that is considered desirable, an assistant female instructor in gymnastics may be appointed in coeducational schools at the local expense.

The total number of lektors and adjunkts teaching in the State schools in the spring term of 1913 was 1 292, namely 77 rektors, 258 lektors, 766 adjunkts, 57 permanent lady-teachers, and 134 "extra" teachers. Besides there were 229 instructors *(övningslärare).*

Teaching work. A rektor at a higher school is under obligation to teach from 12 to 16 hours a week, a rektor at a realskola from 18 to 20, lektors from 18 to 22, adjunkts teaching mainly in the upper classes from 20 to 22, other adjunkts 24 to 28, the "head lady-teacher" from 20 to 22, other lady-teachers from 22 to 26.

Qualifications. To obtain a post as an adjunkt or lektor in one of the State schools, it is requisite to have passed the *filosofisk ämbetsexamen* (an examination specially arranged for this purpose); lektors must in addition have passed the *filosofie licentiatexamen* and have defended a thesis for the degree of filosofie doktor (Ph. D.); in both cases the examination must be composed of groups of subjects which go together and may be of use in the actual teaching. In addition to these theoretical qualifications, both lektors and adjunkts must have gone through a "year of probation" (see below). Female teachers in the coeducational schools must either have the same qualifications as the adjunkts, or have passed through the Higher Training College for Women.

The *"year of probation" (provår)* consists of a *theoretical* course in the theory and history of pedagogics, and of a *practical* course consisting in attendance as auditors, and active participation in lessons in the different classes of the school.

It extends over two successive terms, and is taken at one of the seven schools officially prescribed for this purpose, three of which are located at Stockholm, one at Uppsala, one at Lund, and two at Gothenburg. The number of "candidates" is about 70 a year.

Appointments. Masters on the permanent staff are recommended for appointment by the Supervisory Board, and finally nominated by Government. Female teachers and instructors are appointed by the Board. As is the case with most of those in the State service, masters on the permanent school staff cannot be dismissed without due trial and judgment.

Salaries. For the regular masters there are five different scales of salary, promotion taking place every five years. The salary of *lektors* rises in this manner from 4 000 to 6 000 kronor, that of *adjunkts* from 3 000 to 5 000 kronor. In the Stockholm, Gothenburg and Norrköping schools the municipality also makes a grant in aid of rent of appartment. In the case of *rektors* there are two scales of salary, namely 6 000 kronor in the higher schools, with a rise of 500 kronor after ten years, and 5 000 kronor in the realskolor, likewise with a rise of 500 kronor after ten years; in addition to this a rektor has a rentfree apartment, or a reimbursement for rent. For the *head lady-teacher* there are two scales of salary, namely 2 050 and 2 500 kronor: for other lady teachers two rates, namely 1 850 and 2 050 kronor. *Instructors* have a fixed salary on three scales, and morover remuneration for extra hours of work. — On attaining the age of 65 and after 35 years of service (for women teachers 55 and 25 respectively) teachers on the permanent staff are entitled to a *pension* of 4 000 kronor for lektors, 3 400 kronor for adjunkts, 1 900 kronor for the head lady-teacher, and 1 500 kronor for other lady-teachers. The rektor receives his pension (5 000 kronor in the higher schools, 4 000 kronor in the realskola) in the same course as other teachers, provided he have held the post of rektor for at least 15 years. All teachers are under obligation to contribute an annual quota (maximum 200 kronor) to their future pension. The widow and children of a teacher on the permanent staff receive a pretty considerable pension from a State-aided and State-controlled Widows' and Orphans' Pension Fund, to which an annual quota is contributed by its members.

If the regular staff of teachers is not sufficient, assistant teachers *(extra lärare)* are appointed; like the *vikarie*, or *pro tempore* teacher, the assistant teacher has a yearly salary (from 1914 inclusive not exceeding 2 700 kronor).

Economics. Every town in which a State secondary school for boys is located is obliged to provide free of charge a *building site* for the school house, with sufficient space for the play-ground. As a general rule, the towns are now also liable for the building and maintenance of the *school house*, and moreover under obligation to furnish the rektor with a rent-free apartment, or reimbursement for rent. — In their general equipment and outward appearance the Swedish school buildings attain a very high standard. — In towns in which the State coeducational schools are located, the municipality is moreover under obligation to defray a fourth part of the initial salaries of the teaching staff.

Building costs (inclusive of fittings etc., but exclusive of the site) for some of the school houses erected in recent years are as follows: Realskolan at Malmö 890 000 kronor, Högre Reallläroverket[1] å Östermalm at Stockholm 1 372 000

[1] In towns with more than one higher secondary-school, schools with only a latin-gymnasium are called *högre latinläroverk*, and schools with only a realgymnasium *högre reallläroverk*.

kronor (exclusive of fittings), Högre allmänna läroverket at Hudiksvall 425 000 kronor and Högre allmänna läroverket at Jönköping 696 000 kronor.

On entering a State secondary school the scholars pay a *matriculation fee* of 10 kronor; however, scholars without means and those who are transferred from one school to another, are exempted from this fee. In addition to this the scholars also pay for each term a "school fee" *(terminsavgift till läroverket)*, from which scholars without means or of small means may be partially exempted, and also a "State fee" *(terminsavgift till Staten)*; from this latter entire exemption may be granted. The total school fees without any rebate are for the whole school year about 80 kronor in the realskola, and about 100 kronor in the gymnasium. The matriculation fees and the school fees for the term are appropriated to lighting and heating, educational appliances, and prizes; a certain ratio falls to the building fund.

In each diocese there shall be a Prize and Charity Fund for the benefit of the State secondary schools located in it; the annual revenues are distributed among the schools in the diocese in proportion to the number of scholars etc. This fund is administered by the Chapter. — Moreover, several of the schools possess considerable *donation funds*, the proceeds of which chiefly are appropriated to stipends, prizes, or relief to scholars.

The *State subsidy* to the secondary schools for boys was in 1912 5 680 229 kronor, corresponding to about 243 kronor for each scholar. To this accrue the very considerable communal dues referred to above.

Communal Intermediate Schools.

Endeavours have long been made to bring about closer connection between the State secondary schools and the elementary schools (cf. p. 343). A step in this direction was taken with the erection from 1910 onwards of *kommunala mellanskolor*, communal intermediate schools. These intermediate schools are, as the Swedes have it, "superstructures" *(överbyggnader)* on the top of the elementary school *(folkskolan)*: they follow up the four years course at the elementary school with a four years course, leading up to the realskolexamen. They are chiefly intended for communities of some size and importance (e. g. new industrial centres) which possess no State secondary school.

In accordance with the bill passed by the Riksdag, elementary school teachers with a good record shall, after completing certain studies, be entitled to be engaged as teachers at these intermediate schools. The question as to the training of these teachers has not yet been solved.

The communal intermediate schools are superintended by the Supervisory Board, which appoints an inspector for each school. The right to hold the realskolexamen is obtained by an intermediate school after its competence has been duly tested by the Supervisory Board. Government issues for each school a code of regulations, containing provisions as to local government, and so on.

In schools where boys are taught, there shall be at least *one* male teacher, in schools where girls are taught, at least *one* female teacher.

If there is only one intermediate school in the commune, it shall be a coeducational school.

For permanent teachers there are 4 scales of salary, namely 2 000, 2 400, 2 800, and 3 200 kronor as minimums, and in addition a free apartment with free heating, or equivalent reimbursement. For a permanent female teacher the minimums are 1 600, 1 800, 2 000, and 2 200 kronor besides apartment and heating. Teachers, male or female, with the qualifications of an *adjunkt* (see above) have five years reckoned them to the good in rising to a higher scale of salary.

Intermediate schools are under the guidance of a male or female rektor, who has an extra salary of at least 800 kronor.

These schools are erected and provided for by the communes, however, the State makes a direct annual grant to each school of 6 400 kronor (which within certain limits may be increased by 1 600 kronor for each parallel class and by a sum not exceeding 600 kronor for instruction in domestic economy), and also contributes a certain ratio of the teachers' salaries, particularly as regards the periodical increments for years of service.

At present communal intermediate schools have been erected in 30 different places.

Out of these schools 25 are entitled to hold the realskolexamen.

The temporary grant made by the Riksdag to these schools is from 1915 inclusive 300 000 kronor a year.

Private Higher Boys' Schools, Coeducational Schools, and Private Intermediate Schools.

Chiefly in consequence of the low fees paid in the State schools (see above), very few *private higher schools* have come into existence. At present there are only 12 private boys' schools or coeducational schools that are entitled to hold the studentexamen, namely five at Stockholm (Beskowska skolan, Palmgrenska samskolan,[1] Withlockska samskolan, Sofi Almquist's samskola, and Stockholms samgymnasium, the four latter being coeducational schools); two at Uppsala (Fjellstedtska skolan, a school for boys intending to enter the church, and Uppsala enskilda läroverk and privatgymnasium, a coeducational school; one at Gothenburgh (Göteborgs högre samskola); on at Lund (Lunds privata elementarskola); one at Landskrona (Landskrona stads gymnasium); one at Djursholm in the vicinity of Stockholm (Djursholms samskola); and one at Lundsberg in Värmland (Lundsbergs skola). Three of these, Palmgrenska samskolan, Lunds privata elementarskola, and Uppsala enskilda läroverk, have also the right of holding the realskolexamen. Lundsbergs skola and Fjellstedtska skolan are the only schools under State superintendence which are boarding-schools.

These schools, like all private schools, are mainly supported by the schoolars' fees, but the State also contributes to their maintenance up to about 18 000 kronor a year.

The grant made by the Riksdag in aid to these schools is 190 000 kronor.

[1] *Samskola:* coeducational school.

Of *private lower schools* there were in 1910 about 30 in existence. Most of them had six classes, and were organized on much the same lines as the State coeducational schools; the majority of them had the right of holding the realskolexamen, and most of the others were endeavouring to acquire that right. These schools were as a rule located in communities of considerable size and importance (new industrial centres, etc.) where there was no State secondary school.

However, the regulations issued in connection with the erection of the communal intermediate schools rendered it expedient for most of the lower schools to get themselves reorganized on the lines of the former, not later than 1920. Several of them have already undergone this transformation.

The remainder may be converted into *private intermediate* schools, and must do so after 1920, if they wish to continue in receipt of State subsidies: this will have the effect of making them superstructures to the elementary schools, whereas they had previously been based, like the State secondary schools, on the first class of the elementary schools. The chief difference between the private and communal intermediate schools is that in the private schools the communes or private persons are obliged to contribute a grant in aid equal in amount to the State grant maximum 4 800 kronor, not including grant for instruction in domestic economy), and that no regulations are made as to the qualifications of the teaching staff, nor as to the salaries of the male teachers, nor as to local government.

The private intermediate schools are superintended by the Supervisory Board, which appoints an inspector for each.

The grant made by the Riksdag in aid to these schools is 70 000 kronor.

Girls' Secondary Schools.

Girl's Secondary Schools are a comparatively new institution in Sweden. With a few exceptions, they date from the latter half of the 19th century. Prior to this time girls were taught in their homes by "governesses", or in "pensions". The first school for girls which deserves to be called a Girls' Secondary School is believed to be Wallinska Skolan at Stockholm. This school, which still exists, was founded in 1831 by the well-known historian, Anders Fryxell, at the instigation of Johan Olof Wallin, afterwards archbishop. A few years later, in 1835, a higher school for girls was also opened at Gothenburg, viz. Kjellbergska Skolan, which is still in existence. Afterwards other secondary schools for girls were founded at Stockholm, Gothenburg, Hälsingborg, Västerås, Kalmar, Uppsala etc.; all these were private institutions. However, as nothing had been done for the training of the teachers, the instruction imparted in them was in many cases of a rather unsatisfactory character. The need of training was realized more and more, and this finally led to a Higher Training College for

women being established by the State in 1861; this College is now called "*Högre Lärarinneseminariet*". This was the first measure taken by the State for the advancement of the higher education of women in Sweden. In connection with the College the State also erected three years later "*Normalskolan för Flickor*", the only girls' school hitherto actually founded by the State. It was intended to serve, and it still serves, as a practising school for the pupils of the Training College. In the course of the next few years were founded a good many girls' schools, built more or less on the pattern of the "Normal School"; and in fact the "Normal School" served more or less as a pattern to all the girls' schools subsequently founded in Sweden. In 1874 the Riksdag decided to make a grant of 30 000 kronor to be distributed on certain conditions as a State aid to the secondary schools for girls. This grant was afterwards made annual. It has several times been increased and is at present 400 000 kronor.

"**Statens Normalskola för Flickor**" comprises 3 preparatory classes and 8 school classes proper. The syllabus of instruction fixed for the latter classes will be seen from the Table 70, which gives the subjects and the number of hours allotted to them per week.

The "term fees" for the girls at the "Normal School" vary in amount in the different classes.

In connection with the School there is a "continuation course" of theoretical and practical instruction in domestic economy as well as voluntary instruction in languages and the history of literature.

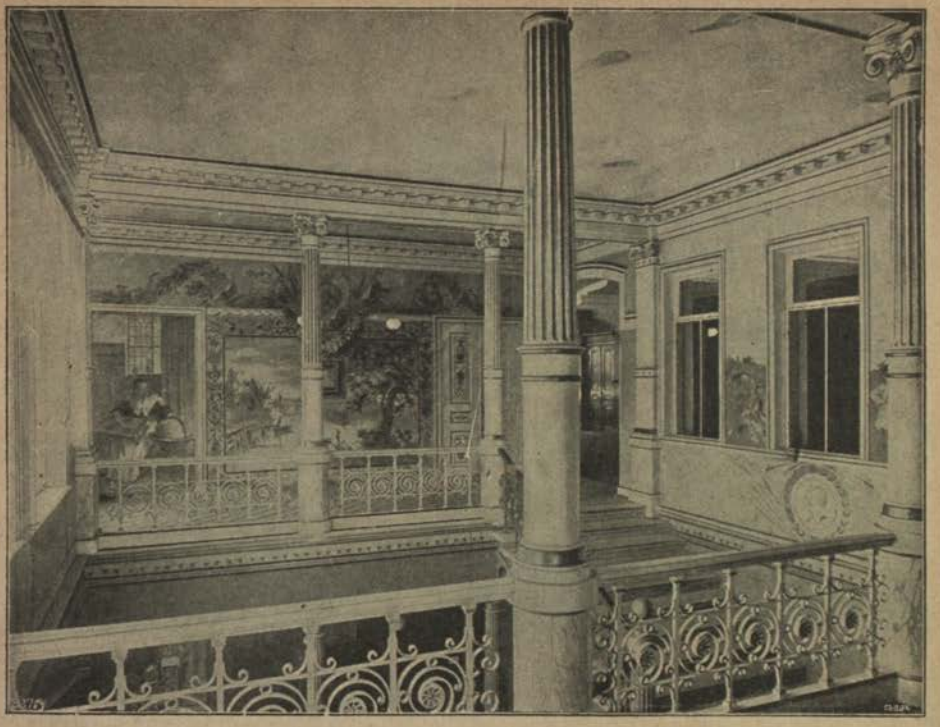
The **Secondary Schools for Girls,** which now number about 80, contain, with a few exceptions, 3 preparatory classes and 8 school classes proper. The sub-

TABLE 70. *Time-table of "Statens Normalskola för Flickor".*

Subjects	Classes								Total
	1.	2.	3.	4.	5.	6.	7.	8.	
Religion	2	2	2	2	2	2	2	2	16
Swedish	4	4	4	3	3½	4	4	4	30½
German	4[1]	4	4	3[1]	3[1]	3	2	2	25
French or English (alternatives)	—	—	—	4	4	3	3	3	17
English or French (non obligatory, alternatives)	—	—	—	—	—	—	3	3	6
History	2	2	2	3	3	3	4	4	23
Geography	2	2	2	2	2	2	1	—	13
Mathematics	3	2½	3	3	3	3	3	3	23½
Natural Sciences	—	2	2	2	2	3½	3½	2½	17½
Hygiene	—	—	—	—	—	—	—	2	2
Writing	2	2	1½	—	—	—	—	—	5½
Drawing	2	2	2	1½	1½	2	1½	1½	14
Singing	1	1	1	1	1	2	2	2	11
Needlework	3	3	3	2	1½	1½	—	—	14
Gymnastics	1½	2½	2½	2½	2½	2½	2½	2½	19
Total hours a week	26½	29	29	29	29	31½	31½	31½	

[1] Backward pupils have one extra hour in these subjects.

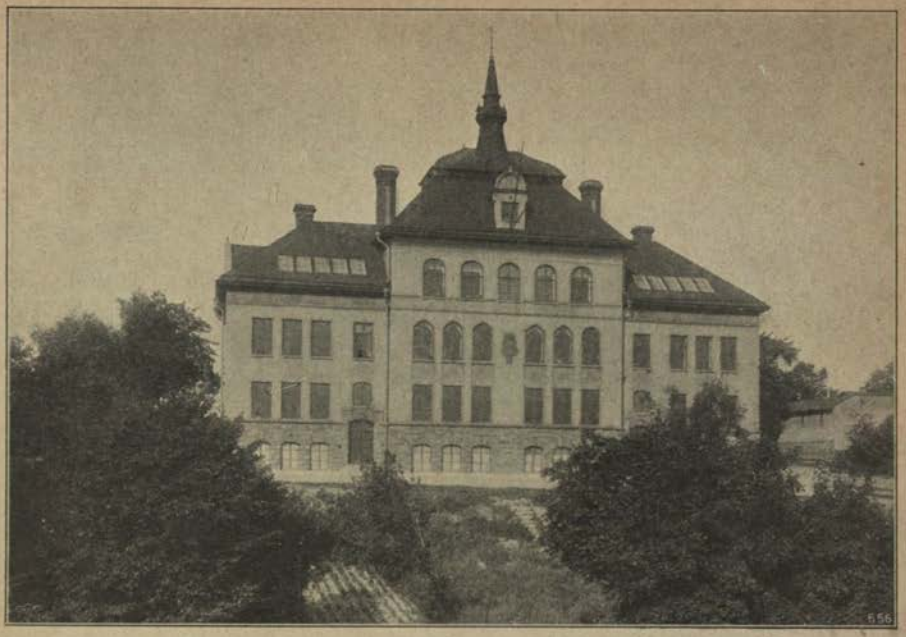
Note. Mathematics, drawing, singing, needlework and the third language are optional in classes 7 and 8, as also choral singing in class 6 (one hour in common with classes 7 and 8).



Nya elementarskolan för flickor, Gothenburg.
Staircase with Fresco Paintings by CARL LARSSON.

jects taught are substantially the same as those at the "Normal School". The time-tables, however, vary in the different schools. Several schools have domestic economy, and a few have wood "Sloyd" on their time-tables. Some subjects, such as one of the modern languages, are optional. German is now, as a rule, the fundamental language. The preparatory classes, which often also admit boys preparing for the secondary schools for boys have in several schools been reformed latterly (partly in accordance with American and Dutch methods). The aim has been to make the teaching more cohesive and better adapted to develop the faculties of the children; great importance is attached to such subjects as modelling, drawing, and different kinds of sloyd. The teaching of drawing and singing all through the school is being improved, and the attempts to improve them are being conducted with method and with skill. The importance of elocution is now more clearly realized. In all branches there is a more and more marked endeavour after a clear and graphic presentation of facts (object-lessons) and towards stimulating the spontaneous activity of the scholars. As a corollary to this, there is an increased interest in procuring and in utilizing school materials and school libraries.

Some of the schools have above the 7th or 6th class respectively three, or four "gymnasium"classes leading up to the studentexamen. At present five secondary schools for girls at Stockholm and one in each of the cities of Gothenburg, Malmö, Hälsingborg, Uppsala, and Lund are officially authorized to hold the studentexamen. Other schools have above the eighth class a "continuation" class for various objects, often of a practical nature.



Secondary School for Girls, Västerås.

It has been explained above, in the section on the boys' schools, that the Realskolexamen introduced in connection with the reforms of 1904 carries with it certain qualifications. Now the promoters of the girls' schools began to have misgivings that the secondary schools for girls would sooner or later be obliged to introduce some kind of equivalent final examination. In order to obviate this, representatives of the girls' schools submitted to Government a petition that a "leaving" certificate (*avgångsbetyg*) from a girls' school officially recognized as substantially equivalent in competence to the "Normal School" might be recognized, without any previous examination, whether written or oral, as equivalent in qualifying value to a final certificate from that school. For the public service and for admission to certain higher educational establishments, the qualifying value of this leaving certificate is superior, as regards women, to that of the Realskolexamen. In May 1909 the Government for the first time conferred this qualifying value on the leaving certificate, and granted it for a period of five years to some thirty secondary schools for girls. Almost all the girls' secondary schools with eight classes have subsequently obtained the same rights. This outcome proved to be of very great importance for the future of the girls' schools, which were thus enabled to develop freely in the direction most consonant with their special needs. Only five of the girls' secondary schools have secured the right of holding the Realskolexamen.

The school year usually lasts 36 weeks, inclusive of the Easter, Whitsuntide and other occasional holidays. There are about 4 weeks' holidays at Christmas, the rest of the holidays being in the summer.

There are at present about 18 600 scholars in the girls' secondary schools. The "term fees" paid by the girls vary in amount. Schools in receipt of State aid, and some of those in receipt of municipal aid, are required to provide a

certain number of "free places" (friplatser), that is total exemption from school fees for a certain number of deserving scholars.

The secondary schools for girls are owned by companies, by the municipalities (*kommuner*) or by private persons; some few of them are endowed institutions. They receive State aid in the shape of two grants, one for general school purposes and one for increments to the salaries (*lönetillägg*) of the teachers. According to the regulations of the Act of 1909, the State aid to a girl's secondary school may amount to a maximum of 4 400 kronor per annum, provided the school have four classes above the preparatory classes, and of 5 200 kronor, provided the school have more than four such classes; in addition to this the school may obtain a special grant for instruction in domestic economy, not exceeding 1 000 kronor. If the girls' school has a "gymnasium" attached to it the grant may be raised up to 2 000 kronor.

The municipality or private donors, as the case may be, shall make to the school they support a grant the annual value of which is at least equal in amount to the State aid, and shall moreover contribute to the teachers' increments for years of service (*ålderstillägg*), and to their pensions, according to a fixed basis.

Teachers in the State-aided girls' secondary schools, except those who teach mainly in the preparatory classes, have fixed minimum salaries. A head-mistress has thus a minimum salary of 2 000 kronor while in the first grade of salary, and 2 300 kronor in the second, besides free lodging or equivalent for rent. A regular teacher who has passed through a Higher Training College, or possesses equivalent qualifications, has 1 400 kronor in the first grade, 1 700 in the second, and 2 000 in the third. Teachers with lower qualifications have an initial salary of 1 200 kronor rising up to 2 000 kronor. "Outside" teachers who are

Gymnastic Lesson, Secondary School for Girls, Västerås.

paid according to the number of teaching hours have at least 60 kronor a year for every week hour they teach, and "instructors" (*övningslärarinnor*) in writing, drawing, music, gymnastics, and domestic economy likewise 60 kronor: a teacher of sloyd (inclusively needlework) has 50 kronor a year per week hour. In certain cases the "instructors" have an increment to their salary reckoned according to 10 kronor per week hour in the second grade and 20 kronor in the third. The State contributes to the salaries of teachers to the extent of 200 kronor a year for every regular teacher who receives a salary commencing at 1 400 kronor, and to the extent of two-thirds of the *ålderstillägg* (see above) guaranteed to head-mistresses and regular teachers; the municipality, or private donors, as the case may be, are bound to provide the remaining third of the increment.

The teachers in the girls' secondary schools are nearly all women: in certain cases there are "outside" masters (salaried according to number of hours), especially in the higher classes and in the "gymnasium" classes.

As to pensions there is the State Pension Establishment for Women Teachers (*Lärarinnornas Pensionsanstalt*). In State-aided schools the head-mistress, the regular teachers, and other teachers who have at least 10 hours a week in one or more State-aided schools, in the classes above the preparatory department, are obliged to be members of this pension fund. The State contribution is a third of the lowest pension fee, the municipality, the private donors, or the school, as the case may be, contribute another third. The annual pension fee for the head-mistress and for the regular teachers is: minimum 180 kronor, maximum 240 kronor, depending on the age of membership. In order to obtain the highest pension, namely 1 200 kronor, the teacher must have attained the age of 60; but she has the option of taking a reduced pension at the age of 55. Teachers who do not belong to the State Pension Establishment may obtain a smaller pension from a private pension fund, *Svenska Lärarinnornas Pensionsförening*. To this fund the State contributes 60 kronor a year for teachers in the preparatory classes, on certain conditions.

The State **Högre Lärarinneseminariet,** or Higher Training College for Women, comprises according to the new organization two obligatory courses, namely a one-year Lower Course and a two-year Higher Course, besides an optional "Continuation Course". The Lower Course is for general education, the Higher for special studies and for practical training.

The subjects in the Lower Course are Religion, Swedish language and literature, German, English, French, Psychology and Logic, History and Social Science, Geography, Biology, Physiology, Physics and Astronomy, Chemistry and Geology, and Mathematics. Four of these subjects may be excluded, but not more than four, and not Religion (except for pupils of other confessions), Swedish, Psychology and Logic, or Physiology; one of the foreign languages must be taken. Drawing, Singing, and Gymnastics are obligatory, though exemption from Gymnastics or Singing may be obtained on the ground of a doctor's certificate, or for other cogent reasons.

The subjects in the Higher Course are Pedagogics, Theology, Swedish, German, English, French, History of Literature and Art, History and Political Science, Geography, Hygiene, Zoology, Botany, Chemistry with Mineralogy and Geology, Physics with Astronomy and Mathematics. Every pupil has to take — besides Pedagogics, Hygiene inclusively School Hygiene, and one optional subject, — a fixed group of connected subjects. Moreover, each pupil during the first year of the Higher Course must take part in a "Training Course" in the Swedish language, comprising written composition and elocution.

If any pupil desire to arrange her course of studies in another way, or for special reasons to take an extra subject, the staff of teachers, will consider the case. Drawing, Singing, and Gymnastics are optional in the Higher Course.

The practical training of the pupils in the Lower Course consists in their attending as auditors at the lessons in the "Normal School" one day every three weeks. In the Higher Course this is followed up by theoretical instruction in Pedagogics and in Methodology, and by a practical training course. The latter consists of attending the lessons in the lower and higher classes of the "Normal School", in "practice lessons" in each of four subjects on the syllabus of instruction of the "Normal School" (out of these four subjects at least two shall form part of the special course of studies taken by the pupil, for the other two she is required to possess knowledge qualifying for admission to the Higher Course) and in correcting written exercises in the special subjects. Candidates for admission to the Training College are required to have acquired such knowledge as is generally imparted in a secondary girls' school with eight classes, and moreover to pass a special entrance examination.

Pupils who have completed the Higher Course of studies take the *lärarinne-examen*, or women teachers' examination. This examination takes the form of a series of *tentamina*, (each pupil being examined privately in each subject by the teacher of the subject).

The optional "Continuation Course" consists of special studies in a subject chosen by the pupil herself.

The teaching at the Training College is free of charge.

There are also some **Private Training Colleges for Women Teachers,** two at Stockholm, one at Gothenburg and one at Lund. All of them receive State aid. According to a decision of the Riksdag, the grant in aid for each of these private training colleges may amount to a sum not exceeding 2 500 kronor a year for each class.

Some of the teachers of the secondary schools for girls have acquired their qualifications by *study at the university*, leading to a degree, followed in some cases by the "Year of Probation" at a State Secondary School for Boys.

As to the "instructors" drawing-mistresses are usually trained at the Technical School of Stockholm, singing-mistresses at the Academy of Music and teachers of gymnastics at the Central Gymnastic Institute or at one of the private gymnastic institutes. There are special courses for teachers of needlework at Stockholm, Gothenburg, and Uppsala. For teachers of domestic economy there is the State *Skolköksseminarium*, the Training College for Cookery attached to the *Högre lärarinneseminariet*, and also private institutions of a similar kind at Stockholm, Gothenburg, and Uppsala.

The Girls' Secondary Schools, the State Training College for Women and the private Training Colleges are superintended by "*Kungl. Läroverksöverstyrelsen*" (Royal Board of Secondary Schools), which appoints an inspector for each of the private establishments.

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Photo. A. Larsson, Uppsala.

Students marching in corpore in front of the University Building, Uppsala.

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University Building, Uppsala. Entrance Hall.

consulted the opinion of at least three specially appointed experts, pronounce as to the competence of the applicants absolutely and relatively; the Greater Consistory then places three of them on the nomination list *(förslag)*, in the order of their relative merits. Applicants who believe themselves to have been unfairly treated in the nomination list may appeal to Government. It is now for the Chancellor to express his opinion in the matter, whereupon the appointment is finally made by Government. — On the other hand, if there is any prospect of obtaining the services of some eminent savant, the faculty or section, prior to the announcement of the vacancy, may resolve by a two-thirds majority to nominate the distinguished man in question. This procedure is called *kallelse*. In that case, the proceedings are considerably simplified: the nomination, accompanied by the opinion of the Consistory, is submitted to the Chancellor, who, with his own judgment appended, passes it on to Government. — There are similar regulations for the appointment of *laborators*, *prosektors*, and *observators*. *Docents* are appointed by the Chancellor on application, or by nomination of the professor concerned, the faculty or section having been consulted.

The total *number* of teachers at the universities and the Karolinska Institutet in the beginning of 1915 will be 321, namely 148 *professors*, 27 *laborators*, *observators*, *lektors*, etc., and 146 *docents*. Out of the 148 professors, 14 belonged

to the Faculty of Theology, 15 to that of Law, 52 to that of Medicine, 39 to the Humanistic Section of the Philosophical Faculty, and 28 to its Scientific Section. Out of the total number of professors 69 were at Uppsala, 55 at Lund, and 24 at the Karolinska Institutet.

The **salary** of professors is 7 500 kronor with an increment *(ålderstillägg)* of 600 kronor after 5 years; for demonstrators at the Medical Faculty of Uppsala and certain demonstrators at the Karolinska Institutet 5 600 kronor with an increment of 500 kronor after 5 and 10 years; for other demonstrators at Uppsala and Lund and the astronomers 4 500 kronor with an increment of 500 kronor after 5 and 10 years; for other demonstrators at the Karolinska Institutet 4 000 kronor. The *docents* have no fixed salary; however there are a number of *docentstipendier*, or "docent fellowships" of 2 500 and 2 000 kronor (28 + 5 at Uppsala, 23 + 5 at Lund), which are awarded by the Chancellor according to merit for a term of three years, which may be prolonged. The lectors in modern languages have a salary of 3 000 kronor a year.

The professors and other permanent teachers are entitled to a **pension** after the age of 65. The amount of the pension depends on the amount of the salary and the number of years of service. The highest pension for a professor is 5 600 kronor. The widow and children of a professor and other university officials receive a pension from a special pension fund, to which all those on the university staff contribute a yearly quota.

The **academical year** *(läsåret)* is counted from the 1st September and is divided into the *autumn term (hösttermin)*, from the 1st September to the 16th December, and the *spring term (vårtermin)*, from the 15th January to the 1st June. A professor is in most cases under obligation to hold public lectures in his branch one hour four times a week. All public teaching, whether in the form of lectures or *seminarium* work is free of cost. Private teaching on the other hand, such as the *kollegier*, or "coaching lectures", of the docents, is remunerated.

The normal **term of study** allotted in the Examination Statutes for the *teologisk kandidatexamen* together with the preparatory *teologisk-filosofisk examen* is 7 terms, for the *juridisk kandidatexamen* 9 terms, for the *filosofisk kandidatexamen* 5 terms and for the *filosofisk ämbetsexamen* (civil service examination) 7 terms. For the *medicine kandidatexamen* and *licentiatexamen* no normal period of study is assigned. The actual period of study, which until quite recently was far too long, has of late years, by dint of a reform in the organization of university instruction, been considerably reduced. None the less, in many cases apparently, it exceeds the normal periods given above.

The Students. In order to matriculate at one of the State universities, one must have passed the *studentexamen* (taken as a rule while still at school).

Every student is obliged to belong to one of the unions called **nationsföreningar**, or simply *nation*, or *landskap* (lit. province) into which the students are grouped, according to the part of the country from which they come: the object of these unions being to encourage hard study and pure morals, as well as the rendering of mutual aid. At Uppsala there are 13 and at Lund 12 of these nation societies, each under the control of an *inspector* chosen by the society among the professors of the university. At Uppsala these unions have as a rule their own club premises, and dispose of pretty large funds; at Lund there is one club-house common to all the "nations", that of the *Akademiska Föreningen*. These unions have played an important rôle in the life of the students both in its serious and in its more convivial aspects. The distinctive feature of the students' dress is the white cap *(vita mössan)*, known abroad from the tours

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Hospital and the Central Lunatic Asylum with the medical and psychiatrical infirmaries, the anatomical, physiological, pathological, physical, chemical, meteorological, zoological, geological institutions and so forth. At *Lund* we note likewise the University Library with about 200 000 volumes, not counting pamphlets filed in cases, and about 4 000 manuscripts, the Numismatical "Cabinet" (*Myntkabinettet*), one of the oldest collections, the Zoological Museum, created by Sven Nilsson, the Geological Museum, instituted by Otto Torell, the Astronomical Observatory, and several other medical and scientific establishments of great value. Connected with the *Karolinska Institutet* are the infirmaries of the Serafimerlasarett and other hospitals in Stockholm, and the *Tandläkareinstitutet*, the Odontological Institute, erected in 1898.

Each of the two universities issues a Year Book, called **Årsskrift** (Uppsala since 1861, Lund since 1864) in which are published, besides the annual university reports, scientific papers by scientists and savants attached to the universities.

It should also be mentioned in this connection that the *Karolinska Institutet* annually (since 1901) awards one of the five Nobel Prizes, notably that for "discoveries in the sphere of physiology or medicine"; see section: the Nobel Foundation.

The regular **estimates** *(ordinarie stat)* for 1914 were for Uppsala University 1 031 878 kronor, for Lund University 790 787 kronor, and for Karolinska Institutet 319 285 kronor. Besides this, there were for the same year extraordinary estimates *(extra stat)* for Uppsala and Lund of together 776 110 kronor, and for Karolinska Institutet of 55 861 kronor. Out of the regular expenditure Uppsala defrayed from her own monies 194 436 kronor and Lund 71 621 kronor. It will be seen that these universities dispose of considerable means of their own; Uppsala University is particularly well endowed: she received from Gustavus Adolphus the magnificent donation of 360 estates, the interests of which have been, and still are, one of her most important sources of revenue.

There are, moreover, considerable *scholarship funds*, some of which are administered by the universities, some by other bodies. The aggregate capital of these funds is at Uppsala about 3 800 000 kronor, at Lund about 1 900 000, and at the Karolinska Institutet about 400 000, or altogether about 6 100 000 kronor.

Private Universities.

As has been mentioned, there are two modern private universities namely at Stockholm and at Gothenburg, started in 1878, and in 1891 respectively.

(A) **Stockholms Högskola** (University of Stockholm). This university college is under the superintendence of the Chancellor of the universities. The governing body is a Board *(styrelse)* of nine members, on whom devolves the appointment of university teachers. The president is nominated by Government; as to the other members of the Board, one is elected by the Swedish Academy, two by Vetenskapsakademien (the Academy of Sciences), two by the Stockholm Town Council, one by the teaching staff *(lärarråd*, lit. Council of professors), and one by the other members of the Board; the Rektor of the university is

The practical training of the pupils in the Lower Course consists in their attending as auditors at the lessons in the "Normal School" one day every three weeks. In the Higher Course this is followed up by theoretical instruction in Pedagogics and in Methodology, and by a practical training course. The latter consists of attending the lessons in the lower and higher classes of the "Normal School", in "practice lessons" in each of four subjects on the syllabus of instruction of the "Normal School" (out of these four subjects at least two shall form part of the special course of studies taken by the pupil, for the other two she is required to possess knowledge qualifying for admission to the Higher Course) and in correcting written exercises in the special subjects. Candidates for admission to the Training College are required to have acquired such knowledge as is generally imparted in a secondary girls' school with eight classes, and moreover to pass a special entrance examination.

Pupils who have completed the Higher Course of studies take the *lärarinne-examen*, or women teachers' examination. This examination takes the form of a series of *tentamina*, (each pupil being examined privately in each subject by the teacher of the subject).

The optional "Continuation Course" consists of special studies in a subject chosen by the pupil herself.

The teaching at the Training College is free of charge.

There are also some **Private Training Colleges for Women Teachers,** two at Stockholm, one at Gothenburg and one at Lund. All of them receive State aid. According to a decision of the Riksdag, the grant in aid for each of these private training colleges may amount to a sum not exceeding 2 500 kronor a year for each class.

Some of the teachers of the secondary schools for girls have acquired their qualifications by *study at the university*, leading to a degree, followed in some cases by the "Year of Probation" at a State Secondary School for Boys.

As to the "instructors" drawing-mistresses are usually trained at the Technical School of Stockholm, singing-mistresses at the Academy of Music and teachers of gymnastics at the Central Gymnastic Institute or at one of the private gymnastic institutes. There are special courses for teachers of needlework at Stockholm, Gothenburg, and Uppsala. For teachers of domestic economy there is the State *Skolköksseminarium*, the Training College for Cookery attached to the *Högre lärarinneseminariet*, and also private institutions of a similar kind at Stockholm, Gothenburg, and Uppsala.

The Girls' Secondary Schools, the State Training College for Women and the private Training Colleges are superintended by "*Kungl. Läroverksöverstyrelsen*" (Royal Board of Secondary Schools), which appoints an inspector for each of the private establishments.

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application, or by simple nomination *(kallelse);* but the appointment must be submitted to Government for sanction, the Chancellor having first pronounced judgment in the case. Docents are appointed by Council *(lärarrådet)*, the Chancellor's sanction being required for the appointment. The Board has in certain cases also the right of dismissing a teacher, though not without the sanction of the supervisory authorities.

The more *immediate* management of university business devolves on the *rektor*, who is appointed by *lärarrådet*, or Council, from among its permanent members for three years at a time, and by *lärarrådet*, which consists of the permanent or temporarily appointed professors. The Högskola is intended in the future to comprise a Humanistic and a Scientific Section of the Faculty of Philosophy, and afterwards a Faculty of Law. At present the only chairs are those of the *Humanistic Section of the Faculty of Philosophy.*

In the autumn of 1914 the *teaching staff* of the Gothenburg Högskola was composed as follows: 15 permanent *(ordinarie)* or temporarily appointed *(tillförordnade)* professors, 12 docents and 2 assistant teachers of modern languages. Professors have a total salary of 7 500 kronor — 5 000 kronor of which is reckoned as a fixed salary, and the remaining 2 500 as emoluments for active service *(tjänstgöringspengar)* —, with an increment *(ålderstillägg)* of 500 kronor after a certain number of years, and a pension on attaining the age of 65 and after 25 years of service. Of the docents one has a yearly salary of 2 500 kronor and one a salary of 1 500 kronor. The assistant teachers of modern languages receive their salary mainly in the form of the fees paid for their tuition.

The *academical year (läsår)* at the Högskola begins on the 1st September and is divided into two terms (1st Sept. to 15th Dec., and 15th Jan. to 31st May). Besides the regular students *(lärjungar)*, there are *auskultanter*, or students permitted to attend certain lectures or exercises on payment of the fees, and *åhörare*, or auditors, who are allowed to attend the public lectures gratis. In the autumn of 1914 the number of regular students at the Högskola was 222, and the number of *auskultanter* 9; the number of auditors at the public lectures has usually been about 1 000.

The Gothenburg Högskola issues since 1895 a Year Book *(årsskrift)*, containing scientific papers and an account of the university work during the year; there is a special fund for this purpose. A series of popular scientific monographs are also published by the university teachers.

The *funds* of the Högskola, which are administered by the Board of Finance *(drätselkammare)* of the city of Gothenburg, amounted at the close of 1912 to a capital of about 4 064 000 kronor. About 6 000 kronor are awarded annually in scholarhips. The Högskola has its own premises.

Summer courses at Universities and University High Schools. On the model of the English university extension movement, an annual course of lectures, covering about fourteen days, has been delivered, since 1893, at Uppsala and Lund, for persons who have no chance of enjoying regular academic teaching. Similar courses have also been arranged in Stockholm (1904, 1907, 1910) and Gothenburg (1911). From 1913 inclusive, summer courses are held in yearly rotation in one of these four towns, beginning with Stockholm. The courses, as the name implies, are held in the summer, expressly to enable school teachers, who then have their holidays, to take part. The number of partakers has varied between about 300 and 800, the latter figure having been reached in Uppsala in 1903. The courses have recently tended to concentrate in Uppsala upon subjects of local lore. The enterprise has been taken up with great interest, especially by the teaching staffs of the elementary and small schools of the

country, and it is supported by the State, county councils, parishes, as well as from the funds of the teachers' guilds. The state contributed 7 000 kronor at 1912 for the courses at Uppsala. — The courses are now managed at Uppsala and Lund by a committee appointed from the university, and in Stockholm by one formed on private initiative. — The student clubs of Uppsala have given numerous courses of instruction since 1907 in villages ("hembygdskurser"). Here too the subject of local lore occupied a leading position.

4. TECHNICAL INSTRUCTION.

Advanced scientific instruction in technical subjects is imparted at the Royal Technical High School (Tekniska Högskolan) at Stockholm and in the advanced department of Chalmers' Polytechnical College (Chalmers Tekniska Läroanstalt) at Gothenburg.

In the second place come the lower department of the latter institution, the five Technical Colleges and the Technical School of Eskilstuna.

In the Technical School of Stockholm a particularly varied instruction and training is giving.

Technical instruction is given, further, in about eighty lower technical trade-schools in smaller towns.

A) **Royal Technical High School.** The Royal Technical High School, which had its origin in a "mechanical school" established in 1798, received its first statutes on June 8th, 1826.

According to these statutes, the "technological institute", as this establishment was then called, was to have as its object "the collection and preparation of the knowledge and information necessary for successfully carrying on sloyd-work, or what are generally called handicrafts and manufactures". The instruction included elementary mathematics, physics and chemistry, machine-designing, workshop and model work, chemical technology and the so-called "private industries", to which modern languages were added in 1830. The staff of the institute consisted of a director, two professors, three assistants, three other teachers, a designer, secretary, and an accountant.

New statutes were sanctioned by the Government on May 8th, 1846, in which it was laid down that the institute was intended as "an educational establishment for young men wishing to devote themselves to some industrial profession, for the proper exercise of which a knowledge of natural science, in particular of chemistry, mechanics, and technology, is required", and from this date the Royal Technical High School counts its existence as a higher technical educational institution. The period of study was to cover two years, but was extended to three years in 1851. The State subsidy for the High School, which in 1813 amounted to only 475 riksdaler banco (obsolete coin = 1·50 kronor),was raised on various occasions, in particular by the Riksdag of 1856, to 49 500 kronor — in addition to a building grant amounting to 480 000 kronor — and in 1864 to 55 500 kronor; in 1866 a special grant of 106 000 kronor was made for incorporating with the High School the Mining School (Bergsskola) at Falun, for which purpose the Mining Society (Brukssocieteten) also contributed 16 000 kronor in addition to a maximum amount of 15 000 kronor per year towards the practical training

of the mining school pupils; in 1869 the State subsidy was further raised to 75 000 kronor. In the introductory paragraph of the new statutes of March 22nd, 1867 the aim of the High School is stated to be "to impart to young men who desire to devote themselves to some technical profession the scientific training required for that purpose". This rendered necessary a division into schools for different branches of industry: one for machine construction and mechanical technology, one for chemical technology, one for mining science — with three sub-departments, and one for road construction and hydraulic engineering. A new budget of 139 200 kronor for the institute was sanctioned by the Government on May 12th, 1876, on which occasion the establishment received its present name of the Royal Technical High School. In accordance with the new statutes of March 2nd, 1877, the teaching staff was to consist of 12 professors, 6 lecturers, 5 extra teachers and assistants, while a new branch for architecture was established.

The Technical High School in Stockholm.

By an enactment of the Riksdag in 1884, the State subsidy was increased to 146 700 kronor. In addition to incidental lesser grants in 1889, 1890, and 1891, the Riksdag of 1895 voted 318 230 kronor and the Government granted from the manufactures loan-fund the sum of 23 000 kronor towards a material testing institute (Materialprovningsanstalt). In succeeding Riksdags the State subsidy was raised in 1899 to 187 050 kronor. On June 28th, 1901, the Government issued new statutes for the High School, which, with the exception of a subsequent slight alteration, are still in force; in 1906, the ordinary subsidy was raised to 203 000 kronor, to which may be added subsequent extraordinary grants amounting to about 50 000 kronor.

The largest amount demanded for the High School was granted, on the Government's proposal, by the Riksdag of 1911, viz. 4 619 000 kronor for new buildings

(of which 300 000 kronor was for the year 1912) in addition to a plot of land of 65 000 square meters; further the ordinary estimates for the High School were increased to 281 400 kronor, and extraordinary estimates amounting to 28 775 were granted for the year 1912.

In addition to the 3 000 kronor included in the estimates of expenditure for students' bursaries, the High School had at its disposal for 1911 the interest on the bursary funds, the latter amounting altogether to 519 150 kronor.

The Board of the High School consists of a president nominated by the Government, the Principal of the school, four members appointed by the Government and one member elected by delegates of the "Jernkontoret" (Iron Institute). The teachers possess the right of proposing three suitable persons as members of the Board, one of whom may be a teacher at the High School.

The courses of study at the special divisions generally extend over four years; instruction is given by 24 professors, 2 lecturers, 24 special teachers, and 5 docents, in addition to assistants. The Material Testing Institute connected with the Royal High School is managed by an inspector, a director, and an engineer.[1]

The special divisions[2] of the High School, together with their sub-departments, are as follows:

a) for machine construction and mechanical technology, with two sub-departments:
   1) for mechanical engineering
   2) for mechanical industry
b) for electrical engineering
c) for chemical technology
d) for mining science, with three sub-departments:
   1) for mining mechanics
   2) for metallurgy and smelting
   3) for mining science
e) for road construction and hydraulic engineering
f) for architecture
g) for shipbuilding.

For admission as ordinary student it is necessary to have passed the matriculation examination ("studentexamen") on the modern side or a corresponding supplementary examination or, under certain conditions, to have obtained the leaving certificate of a technical college.

In the autumn term of 1912, the number of students amounted to 500 in all.

The subjects of instruction are: mathematics, including analytical geometry, differential and integral calculus, the theory of equations and determinants, differential equations together with the method of least squares; descriptive geometry; geodetics; numerical and graphical methods; physics; applied heat; general and theoretical electrical engineering; mechanics; theory of solidity; applied mechanics; construction of parts of machines; the theory of water motors and hydraulic machines; the theory of heat motors; shipbuilding; mechanical technology; mining mechanics; general and organic chemistry; chemical analysis; chemical technology; electro-chemistry; mineralogy and geology; mining chemistry; the properties of metals; metallography; general metallurgy; metallurgy of iron; metal smelting; mining science; building statics; building technics; house-building; architecture; architectural history; ornamentation; modelling;

[1] During the year 1911, the number of tests carried out by the Testing Institute was 9 939, as against 7 868 in the preceding year. — [2] With obligatory four-year courses, except for the school for chemical technology, in which the course extends over three years, with an optional fourth year.

road and bridge construction; hydraulic structure; machine design; building design; freehand drawing; zymotechnics; technical and constructive hygiene; political economy with industrial legislation, and industrial economics.

B) **Chalmers' Polytechnical College at Gothenburg** had its origin in a donation bequeathed in 1811 by William Chalmers for the establishment of a "trade school".

The donation, amounting to over 105 000 kronor, was increased by the interest on it and by a subsequent donation, so that the Board controlling the school which from 1829 received the character of a technical scientific college, had at that time over 112 500 kronor at its disposal. After King Charles XIV John decreed in 1834 that 600 riksdaler banco should be paid out of the manufactures fund, the Riksdag granted from the year 1835 a State subsidy of 3 000 riksdaler banco, which has on various occasions since been increased, in connection with the extension of the college, and has finally reached the sum of 133 750 kronor, apart from an extraordinary grant of 3 900 kronor for 1912. In addition, the institute has donation funds, which at the end of 1912 had risen to 564 712 kronor, of which 325 828 kronor were invested in the college buildings. In order to extend the buildings, the Riksdag of 1911 voted 455 000 kronor, of which 150 000 kronor was for the year 1912.

The statutes issued by the Government in 1877 are still in force, except for a few slight changes.

The bursary funds amount to a total of 167 484 kronor.

The Board consists of 7 members: the Governor of the Län as President, the Bishop of the diocese, the Principal of the college, a manufacturer and three members of the Board of the Freemasons' Orphanage. In 1862 the school was divided into a lower department with a three years' course and a higher department with a three or a four years' course.

The higher department (high school department) is divided into various branches, viz. for machine construction; chemistry and chemical technology; electrical engineering; road construction and hydraulic engineering; house building and shipbuilding.

Instruction is given by 10 professors nominated by the Government, 13 other teachers chosen by the Board, and several assistants. The number of students, which was 110 on an average for the years 1881—85, has since then steadily increased and amounted to over 420 for the year 1912—13.

Subjects of Instruction. In the higher department of the college the curriculum includes the same subjects as in the Technical High School, with the exception of those connected with mining science. As in the case of the High School also, the students are divided into ordinary, special, and extra students. The matriculation certificate is required for admission, or the person applying for admission must pass a special examination in mathematics, the Swedish language, German or English, and Swedish history and geography.

The subjects of instruction in the lower department are: mathematics, including arithmetic, algebra, logarithms, plane trigonometry, geometry, planimetry and stereometry; physics and chemistry; electrical engineering; elementary mechanics, the principles of applied mechanics, machine design, together with the construction of simple machines and parts of machines; mechanical technology; principles of theoretical and practical shipbuilding; geometrical drawing, freehand drawing; modelling; book-keeping; wood and metal working in workshops.

Since 1888 a material testing institute has been united with the college; it receives an annual State grant of 1 500 kronor. The staff is composed

of a director for the mechanical department, a director for the electrical department, an assistant, and servants. The number of tests carried out by this institution has continuously increased and amounted in 1911 to 2 139.

C) **The Technical Colleges** aim at imparting both theoretical and practical instruction in technical subjects to such persons as desire to prepare themselves for industrial work.

These colleges are five in number and are situated at Malmö, Borås, Örebro, Norrköping, and Härnösand. For the oldest of these colleges, that at Malmö, statutes were issued on April 29th, 1853; for those at Borås, Örebro, and Norrköping on March 12th, 1856. The school at Malmö began work in 1853; that at Borås in 1856; those at Örebro and Norrköping in 1857. The college at Härnösand was established by virtue of a Royal Proclamation of November 9th, 1900 and began work on August 28th, 1901. The statutes now in force for the colleges are dated June 15th, 1877, with modifications of December 10th, 1886, May 29th, 1896, November 9th, 1900 and June 9th, 1905, according to the last of which the regular masters are placed, with regard to salaries and pensions, on the same level as corresponding teachers at the secondary schools, while assistant teachers are remunerated at the rate of 125 kronor a year for one lesson a week; a further modification of the statutes was issued on October 26th, 1906. The colleges are directly subordinate to the Royal Ecclesiastical Department.

The Board of each college consists of a President nominated by the Government, the Director of the school, and three other members, of whom one is nominated by the Government and two by the Town Council. Further, the Governor of the Län is *ex officio* member of the board and presides over the meetings when he is present.

The courses of study extend over three years. The school year consists of 38 weeks, in addition to 4 days set apart for admission and leaving examinations. The lowest age for admission is fixed at 14 years, but the pupils are generally 17 years old on entering the colleges.

The admission examinations include the Swedish language, mathematics, history, and geography. Youths who have passed the "realskolexamen" (Modern School), with at least a pass certificate in mathematics, are exempt from the admission examination, so long as they apply for admission at the latest in the autumn term two years after passing the examination. During the last three terms of the course of instruction the pupils are divided into three departments: a mechanical, a chemical, and a building department.

The admission fee is 10 kronor; the terminal fees amount to a maximum of 10 kronor.

Instruction is given at each school by four teachers, one of whom is the principal and has the title of Rector, a foreman, the necessary number of extra teachers, a teacher of gymnastics, and assistants.

The number of *pupils* amounted in the autumn term of 1912 to 417 for the five colleges together.

According to the statutes at present in force, the *instruction* is to include: Mathematics, namely: a) arithmetic, algebra, plane geometry, stereometry, series and logarithms, plane trigonometry, and the elements of analytical geometry; b) descriptive geometry and geometrical drawing; c) practical geometry; surveying, levelling, with designing and practical exercises. — Mechanics: a) laws respecting the equilibrium and motion of bodies; b) applied mechanics, machine design and construction of simple machines and parts thereof; c) mechanical technology. — Physics: experimental physics with regard for the most important applic-

ations of this science to industry. — Chemistry, inorganic and organic, with laboratory demonstrations, and chemical technology. — Mineralogy and geognosy. — The Swedish language; German, English or French, according to the decision of the respective Boards. — Book-keeping and commercial subjects; building with designing; freehand drawing and modelling; workshop practice; gymnastics and the use of arms.

The State grant to the technical colleges in 1911 amounted to 26 600 kronor for each; as extraordinary State grants the colleges at Malmö and Örebro, which have parallel departments, received 14 450 and 19 920 kronor respectively, while the colleges at Borås, Norrköping, and Härnösand received 4 250, 4 250, and 4 550 kronor respectively. The funds of the colleges amounted to 283 000 kronor at the end of 1909.

The premises for technical colleges are to be furnished by the municipality of the place where the college is situated; the remainder of the equipment has been provided partly by the municipality, partly by the State, and to a less extent from the pupils fees.

D) **The Technical School of Eskilstuna** was opened, under another name, in 1855, was enlarged in 1872, and, after the Town Council had granted funds in 1888 for a professional school for the finer kinds of forging and metal working, these institutions were combined in 1890 under the present name.

In the older department or **Sunday and Evening School,** the instruction includes: mathematics, as in the technical colleges with the exception of the elements of analytical geometry; mechanics, applied mechanics, machine design, mechanical technology; physics and chemistry, as in the technical colleges, with the exception of chemical technology; the Swedish language with essay-writing; German or English; writing; freehand drawing and modelling; book-keeping suitable for the requirements of industry; architecture; — in the **Professional School for the Finer Kinds of Forging and Metal Working:** freehand drawing with styles of art, modelling, carving, engraving, metal casting, chasing, metal hammering, etching, galvanizing, forging, filing, and turning.

Instruction is given in the Sunday and Evening School by 12 teachers and in the Professional School by 4 teachers. During the years 1903—12 the number of pupils (in the spring term) in the Sunday and Evening School was 205, 223, 187, 141, 186, 221, 232, 244, 215, and 205 respectively, and in the Professional School for the Finer Kinds of Forging and Metal Working 42, 46, 34, 33, 36, 35, 41, 37, 36, and 29 respectively.

The school possesses 9 prize and donation funds, the total of which was 45 970 kronor at the end of 1911.

E) **The Technical School of Stockholm** was opened as a special "*Sunday drawing school for artisans*" in 1844, but was taken over in the following year by the Swedish Sloyd (Industrial Art) Association, and began work in 1846 as the *Sloyd Association School* or, as it was generally called, the *Sloyd School*. After having received grants both from the State and the city of Stockholm, the school was taken over entirely by the State in 1860, but it has, nevertheless, continued to receive grants from the city.

In the course of time, the school has undergone several extensions and reorganizations. Thus, in 1859, a technical school for women pupils was added.

By decision of the Riksdag of 1878 and by new statutes of November 1st of the same year, the school underwent a complete reorganization which came into effect from September 1st, 1879. The scheme of instruction was then more sharply defined for the two school departments already in existence, while two new departments were added, namely the Higher Industrial Art School and the Building Trade School. In 1890 another department was established, the Mechanical School, and in the following year new statutes were issued.

The Technical School of Stockholm thus comprises five main departments, namely:

I. Technical Evening and Sunday School, for the imparting to youths and men, in particular those who have already entered a technical profession, of such instruction as may be necessary in order properly to carry out their work;

II. Technical School for Women pupils, which is intended to impart to women, who have devoted or wish to devote themselves to industrial professions, suitable technical instruction;

III. Higher Industrial Art School, intended to give to persons with experience in certain branches of industrial art an opportunity to perfect themselves in their professional training, while within this main department there are sub-departments for training teachers of drawing, writing, and modelling at the State secondary schools, training colleges for elementary school teachers, and technical colleges;

IV. Building Trade School, which aims at training draughtsmen and persons assisting in the management of building-work; and

V. Mechanical School, intended to train draughtsmen and persons assisting in the management of mechanical and technical-work.

In the Technical Evening and Sunday School there are 18 different curricula for the same number of trades, in addition to a preparatory course for admission to the Higher Industrial Art School and a similar course for admission to the Mechanical and Building Schools. In the Technical School for Women pupils there are 11 curricula, namely one for admission to the Higher Industrial Art School and 10 for a similar number of professions. One department of the Higher Industrial Art School aims at training drawing teachers. The other department comprises five branches, namely pattern designing, decorative painting, modelling, wood carving, and chasing and engraving.

For the Building Trade School there is only one curriculum, and in the Mechanical School, which originally distinguished between seven different branches, experience has proved that only one course is necessary. In the latter, however, instruction is given, outside the actual work of the school, to persons training to become electrical fitters. Pupils of the Evening School have also the right, under certain conditions, of taking part in this course. In the Evening School there is also a special department for training professional painters (the so-called Painters' Day School). Special instruction is also given in styles of art and ornament composition, artistic needlework, and weaving, and for the pupils of the Higher Industrial Art School in the anatomy of form and drawing.

The instruction at the school is in the hands of about 80 teachers and assistants, while a Board is responsible for the management; in the latter, three members, the President, the Vice-President and the Director of the school, are nominated by the Government, one member is nominated by the Stockholm town council, one by the Royal Academy of Arts, one by the Swedish Sloyd Association, and one by the teachers of the Royal Technical High School in council.

The number of pupils has in recent years approached 2 000, a fact which bears witness to the school's reputation and importance. This is also proved by

the continual increase in the grants made to the school both by the State and the city of Stockholm.

The pupils' fees for each subject are as follows:

At the Evening and Sunday School:				
for pupils who have entered a technical profession	5	kronor	per	year
for other pupils	50	»	»	»
At the Technical School for Women pupils:				
for pupils who have entered a technical profession	10	»	»	»
for other pupils	50	»	»	»
At the Higher Industrial Art School:				
for pupils who have entered a technical profession	20	»	»	»
for other pupils	60	»	»	»
for candidates wishing to become drawing teachers	50	»	»	»
At the Building Trade School	15	»	»	»
At the Mechanical School	15	»	»	»
For preparatory courses	5	»	»	»
For extra instruction:				
for pupils in a profession	2	»	»	»
for other pupils	5	»	»	»
for special pupils in the Higher Industrial Art School	15	»	»	»

The requirements for admission are as follows:

For admission to the Evening and Sunday School:

A certificate of good character and an age of 14 years. Efficiency in the four simple rules of arithmetic with whole figures. The capacity of writing Swedish from dictation more or less without mistakes. Some knowledge of geometric drawing and clear handwriting.

For admission to the Technical School for Women pupils:

The requirements are the same as for the Evening and Sunday School.

For admission to the Higher Industrial Art School:

A certificate of good character and an age of 16 years, together with the passing of an examination showing such proficiency both in freehand and geometrical drawing and also, according to the branch of study, in painting and modelling, as is sufficient for the pupil to be able to profit by the instruction; for admission to the drawing teachers' training college, in addition to the certificate of good character, the pupil must prove that he has completed his eighteenth year, and must also produce either a certificate to the effect that he has passed the "realskolexamen", or proof, which must be accepted by the Board, that he has acquired a corresponding degree of knowledge, and he must further prove that he possesses the necessary proficiency in freehand and geometrical drawing, perspective, and shading.

For admission to the Building and Mechanical Schools:

A certificate of good character and an age of 16 years, together with a certificate of at least six months' practical work, of being able to write Swedish from dictation more or less without mistakes, of possessing efficiency in the four simple rules with whole figures and fractions, both in arithmetic and algebra, of possessing a knowledge of geometry corresponding to the first four books of Euclid, and of having such proficiency in freehand, geometrical and mechanical drawing as to be able to profit by the instruction imparted in these subjects and in subjects based upon them.

Instruction is given in the following subjects: the Swedish language, arithmetic, algebra and geometry, handwriting, book-keeping, geometrical construction with drawing, freehand drawing, physics, chemistry and electrical engineering, industrial art drawing and mechanical drawing, decorative and professional painting, modelling, mechanics, machine and building construction together with draw-

ing, perspective with drawing, figure drawing, wood carving, chasing and engraving, form and ornamentation, artistic needlework and weaving, lace-making, leather work, book-binding, and other subjects.

F) Finally, we may mention the **Lower Technical Trade-Schools,** at present about 80 in number, which have been established through the initiative of individual municipalities, but most of which also enjoy State support. It is natural that these schools should give instruction varying according to the local requirements and conditions. It may, however, be stated generally that they are intended to provide suitable instruction for persons who are engaged as apprentices or workmen in trades or handicrafts, and who desire to acquire certain technical or commercial knowledge.

The lowest age-limit for admission is generally 14 years, and the education necessary is that of an elementary school. In most schools the course extends over one year. Generally it is left to the pupil to choose what subjects he will study. Instruction is principally given in the evenings, and on Sunday morning. The teaching year generally comprises 30 weeks.

The subjects of instruction are: The Swedish language with spelling and composition, handwriting, handprinting, etc., book-keeping, arithmetic, algebra, geometry, perspective and shading, freehand drawing, geometrical and mechanical drawing, technical drawing and designing etc. In certain schools are added physics, chemistry and electrical engineering, commercial correspondence, etc., artistic needlework and weaving, theoretical and applied mechanics, etc. The State grant to these schools at present amounts to 90 000 kronor, and of this sum about 70 of the schools receive amounts varying between a minium of 200 kronor and a maximum of 6 000 kronor.

The schools work quite independently of each other, but are under the supervision of an inspector appointed by the State, which post is at present held by the Principal (rektor) of the Technical School of Stockholm.

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The report of June 11th, 1912, addressed to the Government by the Royal Committee appointed on October 4th, 1907, for the purpose of drawing up proposals with regard to lower technical instruction, contains a complete *reorganization* scheme for this department. It will not be necessary to give particulars here, the proposal being still under deliberation by the competent authorities.

5. SWEDISH GYMNASTICS.

Swedish gymnastics derive their origin from *Per Henrik Ling* (1776—1839). Before his time, it is true, interest had been awakened in favour of a more thorough exercise of the body. Various writers, as well as school committees, had urged the importance of athletic exercises in the training of the young, and both the Swedish universities had their fencing masters;

but nothing like gymnastics in the present sense of the term existed. The conception of the "Philanthropines" with regard to physical education was never put into operation in Sweden.

Ling's appearance at Lund in 1805, as fencing master to the university, was the real beginning, and by the foundation of the **Central Gymnastic Institute** (1813), on Ling's initiative, the first and most essential step forward was accomplished towards establishing that seat of learning whence, as Ling's prophetic eye had foreseen, the gymnastic idea should spread throughout his country.

Per Henrik Ling.

He was supported in the execution of his plan by the powerful influence of the leading spirits of the "*Gothic Society*" (Götiska förbundet), among whom he was without doubt himself the most powerful champion, and the one destined to emerge as the most influential in time to come.

At the above mentioned Institute, and at first under his direction, the system of gymnastics has slowly but steadily developed in conformity with the principles he laid down, and with his conception of the nature, properties, and functional influence of the exercises.

According to Ling's idea, the selection and kinds of exercises should be based on the requirements of the body itself, which is consequently the object of, as well as the principal instrument or implement for the performance of the exercises. In many exercises, however, further apparatus is also needed, and this has been devised with *exclusive* regard to obtaining the *necessary* exercises. Through the correct use of apparatus, it becomes increasingly possible

to limit more precisely the form and the scope of a movement. This limiting has been called localization, sometimes isolation, to distinguish it from a combination of forces, which is also necessary to obtain the effect desired. Such combination has been called synergy or co-operation.

Ling had not time during his busy life — which was also tried by adverse fortunes — to summarize and present in print a complete system of gymnastics. He published only one fairly comprehensive work on the subject, entitled *General Principles of Gymnastics.* In this the different branches are dealt with — the *pedagogic*, the *military*, the *medical*, and the *esthetic.* It is shown therein how necessary it is that gymnastics should be founded on a knowledge of the human organism as a whole, (anatomy and physiology), and on the laws of motion.

What has been done after Ling's death to consummate his work was, for the most part, effected by his immediate successor *Lars Gabriel Branting* (1799—1881) and by his son *Hjalmar Ling* (1820—86). — Branting developed Ling's principles in his lectures at the Institute, and raised medical gymnastics to a high standard. — Hjalmar Ling was also a skilful medical gymnast; but he paid more particular attention to the special subject of pedagogic gymnastics. He represented by very striking drawings, made by himself, thousands of movements and formed a collection of these, arranging them, in harmony with his father's plan and intention, according to their effect on the organism, into different classes. Ten classes of gymnastic movements are thus shown to exist. Some of these may with advantage be further subdivided into two or more groups. He also drew up lists of movements suitable for different ages, and rendered possible the introduction of pedagogic gymnastics into elementary schools and its inclusion in female education.

The movements in each of the above-mentioned classes have been arranged in progressive order, according to the degree of effort they call forth. In practice, movements requiring about the same degree of effort should be chosen out of each classe, and arranged together for a programme, a so-called "*day's exercise*" — for regular use. A number requiring less exertion should be inserted among the representative movements chosen from each class, so as to fill out the day's programme into a *complete set of gymnastic exercises.* It is, for instance, requisite that every part of the body, and its organs in general, should each receive its proper share of the day's exercises, which, as a whole and in detail, must be accommodated to the degree of development of the pupils. The number of pupils practising at one time, which is sometimes rather large, must, therefore, be divided into several smaller groups, so that those may practise together who have attained the same degree of development.

In order that a sufficiently great effort may be called forth, without, at the same time causing over-strain, the arrangement of the movements in the day's programme should, aim at always securing equilibrium between respiration, the action of the heart, and muscular work. This is obtained by alternating the movements so as to affect different sets of bloodvessels, so as to promote or restrain the circulation to and from various parts of the body. At the same time the rate of breathing must be increased and decreased by turns, while the breathing itself becomes deeper. Besides employing different movements with the varying effects, this end is also attained by gradually increasing the violence of the day's exercises up to half time or rather beyond, after which the exertion is decreased more rapidly towards the end; and when the whole day's exercises have been practised, the action both of the heart and of the breathing ought to be strong and deep but calm.

When the exercises thus arranged correspond to the capacity and ability of the individual, self-command, i. e. harmony between the nervous action and the

power of performance, is produced and developed. The implements of movement, viz., the skeleton itself with its ligaments and muscles, are during the exercise the instruments constantly at work, but of themselves they can do nothing except operate through the nervous impulses, — therefore it is evident that the development of a calm and equable nervous system, sufficiently dominant, must be one of the chief aims of gymnastics. Action and reaction is the natural law thas is concerned here. As Ling significantly said, "Muscular force or elastic force thus stands in intimate connection with the blood vessels and nerves, and therefore the latter must be developed equally with the former".

Among the great number of movements employed in gymnastics, there are also many *applied movements*. And the result of these — as far as the choise of movements is rational and suited to the organism's requirements — must be that (to the degree that individual capacity permits) health and strength are gained, and also that suppleness that is demanded of the civilized individual to accomplish the tasks imposed by everyday life. Ling also prescribed, in complete agreement with all his views, the addition of gymnastic games, as supplementary to the more regular and systematic gymnastics, holding that "an element of pleasure should pervade everything". But he offers a caution against all excess, calling to mind the diversity of human capabilities, in the words "Therefore all this exaggerated competition in gymnastics hinders all *true* development and encourages one-sided skill, that is to say disproportion". — The whole of this system of gymnastics is, in the fullest and best sense of the word, truly democratic. It is as suitable and almost as accessible for the poor as for the rich, it is the inheritance of the weak and the strong alike, whether man or woman.

The object of *pedagogic* gymnastics is to perfect health and to make the body an obedient implement of the moral will, and one always available. Just as mental training ought to have for its special purpose the development of good sides of the mind and the subjugation of its evil propensities, so physical training ought, by suitable exercises, to produce harmony and concord amongst the forces of the body and at the same time to correct its defects and weaknesses, and to prevent their development and growth. Thus, in pedagogical gymnastics a purely corrective element is included.

Military gymnastics, fencing, proceeds from, as it is based upon, pedagogic gymnastics, and must be founded in its movements on laws both mechanical and gymnastic, so that, by correct use, the available strength may achieve steadiness, quickness, and endurance.

The great expectations which Ling entertained with regard to the Central Gymnastic Institute are being steadily and surely realized. The Institute has, during its century's existence, developed to a very considerable extent. All teachers of gymnastics, women as well as men, are trained there for all the educational establishments throughout the country, and likewise for the military schools. For this purpose there are courses of one year, two years, and three years for men, and a two years' course for women. The three first-mentioned follow one another consecutively and are preparatory each for the next: the third year's course is devoted exclusively to instruction in subjects for training in medical gymnastics. The number of pupils at the Institute has so increased that at present it amounts to about 135, of whom 60 are women.

In all the State schools (of six and nine classes) in the Kingdom there are well-lighted and airy gymnasiums. in which the exercises are conducted

by teachers trained at the Central Gymnastic Institute. According to the statutes in force, every school pupil whom the physician has declared sufficiently fit must practise gymnastics at least half an hour daily, or four times a week for 45 minutes, besides which the pupils in the upper forms must have two lessons per week in fencing, lasting 45 minutes each.

Gymnastics are also compulsory in the secondary schools for girls throughout the Kingdom, though the majority of these schools have not daily practice as yet, but content themselves with three lessons a week, each time for half an hour.

Pedagogic Gymnastic lesson to Lady Pupils, Central Gymnastic Institute, Stockholm.

In all the Training Colleges for elementary school masters and mistresses, staffs of equally well-trained gymnastic instructors are employed, to conduct gymnastic exercises for the future teachers, who during their four-years' course are also trained to teach gymnastics in the elementary schools, where gymnastic exercises are a compulsory subject. — Also at the high schools for the people the introduction of gymnastics has begun in earnest, in spite of the entirely private character of those establishments. Twenty-one of these have now their own gymnastic halls. — Besides, in the larger towns privately organized gymnastic-courses exist at so-called gymnastic clubs, for women and men alike, also for persons who do not belong to

any organized association but practise gymnastics only for the benefit of their health.

In the army and navy, the same system is applied in schools of all grades, for recruits, corporals, non-commissioned and commissioned officers. Lastly, it may be added that the Ling system is followed everywhere in Sweden.

With regard to **foreign countries,** it may be stated that medical gymnastics have spread more than the other branches. Pedagogic gymnastics have, however, made progress in several countries, such as Norway, Denmark, England, Belgium, France, Greece, Spain, Switzerland, Japan, America, etc.; though not to the same extent in all.

In *Norway* the staffs of teachers for the schools and for the army are trained at the Central School in Kristiania, founded and developed on the model of the Stockholm Institute.

In *Denmark* it is chiefly at the people's high schools, in the free shooting clubs, and in the elementary schools that the Ling system has been largely introduced, with remarkable success. Even the regulations for gymnastics in the army and navy generally indicate his principles.

In *England* a Swedish lady, Mrs *Bergman-Österberg,* has established a gymnastic institution for the training of female teachers in gymnastics. This is now removed to Dartford Heath in Kent. A Swedish gymnast, *A. Broman,* has started an institute in London for training teachers of general medical gymnastics. Besides these, other establishments provide instruction, and at these not a few members of gymnastic staffs are trained. At Eton, a public school for boys of the highest ranks of society, Swedish gymnastics are compulsory, and the Navy regulations specify the Ling system.

In *Belgium* Swedish gymnastics prevail throughout the army: at the State university of Ghent a faculty of physical training on Ling's system has been added to the medical faculty, and all degrees up to that of doctor can be taken. Pupils at the great seminary for teachers in Brussels are trained on the same system, and hence by degrees it has penetrated into the schools.

In *France* army regulations in gymnastics prescribe a closely similar system: at the military gymnastic school near Paris, teachers liable to conscription are annually given a course of three months in gymnastics.

In *Greece,* the system is officially adopted for schools and army alike.

During 1912, in *Spain,* a new infantry regulation for gymnastics was issued which prescribes only Swedish gymnastics.

At Geneva in *Switzerland* Ling's gymnastics were introduced chiefly by Professor *Jentzer,* M. D., who for this purpose also translated the manual most used in our elementary schools.

In *Japan,* during 1912, a State school of gymnastics was founded, where the essential points in the training were adapted to Ling's principles.

In the *United States of America* Ling's gymnastics are widely spread, the special starting-point having been the *Normal School of Gymnastics* founded in Boston by Mrs *Mary Hemenway,* which is still maintained on funds provided by her. About thirty teachers of both sexes annually pass an examination at this school, after a two-years' course. A number of Swedish teachers also go out every year to the great republic across the Atlantic.

Gymnastic **literature** is not very voluminous. It is limited to regulations, manuals, textbooks, and essays of a more or less casual character. Since 1874 a periodical has been published, entitled *the Gymnastic Maga-*

zine (Tidskrift i Gymnastik). It comes out in quarterly numbers, each containing about 80 pages, and is the organ of the Swedish Association of Teachers of Gymnastics. Articles in German, French, and English are included in it. A history of the Central Gymnastic Institute has been published.

Medical Gymnastics on Ling's System.

Medical gymnastics are throughout the civilized world called *Swedish medical gymnastics* (Svensk sjukgymnastik), when it is to be indicated that they are based on scientific principles. Moreover, medical gymnastics have been developed chiefly by Swedes, especially by medical men appointed to the Central Gymnastic Institute and to the Gymnastic-Orthopedic Institute in Stockholm. The latter was founded in the year 1822 by *Nils Åkerman,* M. D., and since the year 1827 has received Government grants. At this institute it is that orthopedic gymnastics have been chiefly developed.

As having most contributed to progress ought to be mentioned, besides the work of the two government institutions, the founding of the system of medico-mechanical gymnastics by Dr *Gustaf Zander,* in 1857 (see below), and of Gynecological gymnastics by Major *Ture Brandt,* in 1861. Since that time medical gymnastics according to *Ling's* system have been styled "manual gymnastics".

The Central Institute is the State establishment for instruction in medical gymnastics; it provides a course of two years for females, three years for males, for gaining the diploma of the Board of Health. The same privilege has been enjoyed by female students at Dr J. Arwedson's Institute in Stockholm, since 1902 inclusive, and at Captain A. G. Thulin's in Lund, since 1911. To these three establishments, which train about 100 licensed gymnasts annually, admission is restricted to such as have passed the matriculation examination, or completed the course at a higher school for girls.

Several private institute have sprung up for the instruction of medical gymnasts — in Stockholm as well as in provincial towns; the conditions for admission to them are very much less strict, and the teaching, which the State does not control, is theoretically as well as practically somewhat incomplete at some of them. The certificates given are not officially recognised in Sweden. The gymnasts educated in this way — at least 200 year — practise both in Sweden and abroad.

Shorter courses in medical gymnastics are given, by teachers engaged for this purpose, to the medical students at the universities of Uppsala and Stockholm.

In almost every town and at every health resort in Sweden there exist establishments for medical gymnastics. In the year 1912, 6 339 patients were treated at the larger medical gymnastic institutes, and af these 2 986 gratuitously.

Medical Gymnastics at the Gymnastic-Orthopedic Institute, Stockholm.

Between 1880 and 1890, Stockholm began to be visited by large numbers of foreign medical men, for the purpose of studying medical gymnastics, mostly from Germany, Austria, Russia, and America; since 1890, by many from Switzerland, France, and Italy too. The other Scandinavian countries had already profited by Swedish experience.

In proportion as Swedish medical gymnastics have become known and their merits recognized in foreign countries, Swedish gymnasts have, in a word, been appointed throughout the whole of the civilized world, particularly in the larger towns and health resorts in Europe, but many also in America, and some even in Asia.

At first medical gymnastics were employed chiefly in cases of affections of the visceral organs and nervous system; by degrees they began to be employed for pains in the joints and for deformities of various kinds, and have been recently applied to increase the efficiency of the functions, after external injuries and surgical operations, and finally, to shorten the period of convalecense after certain fevers.

Among Swedish authors dealing with this subject may be mentioned J. Arvedson, T. Brandt, P. Haglund, T. J. Hartelius, Emil A. G. Kleen, P. H. Ling, H. Sätherberg, A. Wide, E. W. Wretlind, E. Zander, and G. Zander. The most complete works on the subject are the "Manual of Medical and Orthopedic Gymnastics and Massage", by A. Wide and D. Rancken, 3d edition, 1912, Stockholm, also published in German, French, and English; and "A Handbook on Massage and Medical Gymnastics", by Emil A. G. Kleen, with contributions by J. Arvedson, P. Haglund and E. Zander, 2nd edition, Stockholm, 1911.

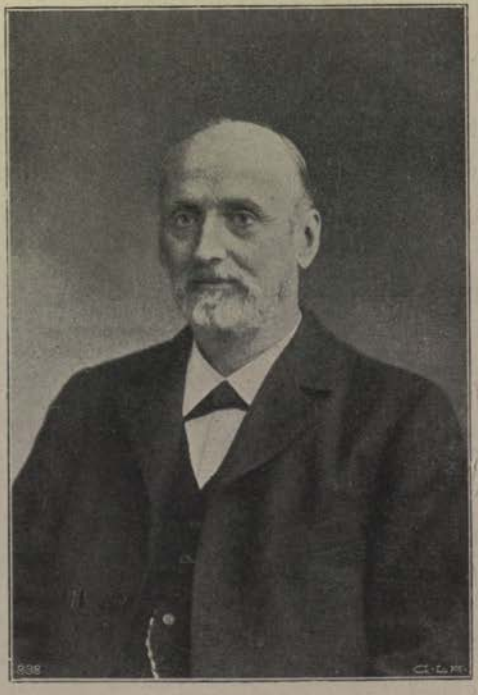
Zander's Medico-mechanical System of Gymnastics.

The working out of this gymnastic system was begun as far back as 1857 by Dr *Gustaf Zander* at Stockholm. His first institute was started in the capital in 1865.

The purpose of the Zander system is to render possible by means of mechanical apparatus the exercise of the muscles of the human body, and to produce certain mechanical effects upon the organism as a whole or upon certain parts of it. Like the manual system of gymnastics it is based upon Ling's teaching that changes in the organism, caused by illness, can be remedid and removed by means of systematic exercises for the muscles. In order that a movement may be effectual, it must overcome a certain amount of resistance, which in manual gymnastics is produced by the trained hand of the operator, but in mechanical gymnastics by an adjustable weight attached to a graduated lever, by means of which the strength of the resistance at every moment of the exercise can be measured. Every apparatus constructed for the separate groups of muscles is, therefore, to a certain extent, to be regarded as really a dynamometer, because it aims at measuring the strength of the group of muscles acted upon.

If the muscle is given too strong a resistance, to overcome, it shows this by a tremulous and irregular movement, which indicates that the point of maximum working power has, for the time being, been reached. This can obviously be altered when the muscle has, through *training,* obtained increased power, a phenomenon which can be observed daily during the exercises.

Besides these *active* apparatus, Zander has constructed others for *passive* movements, i. e., those that, without help from the muscles, set the limbs in motion, and thus stretch and soften the capsules of the joints, the sinews, the ligaments, and the muscles; and other apparatus again for "mechanical influence" in the shape of shaking, vibration, percussion, kneading, rolling, and rubbing. These latter may be regarded as massage manipulations but are not intended to take the place of local massage *by the hand*, in which the highly trained hand can do what is beyond the power of any mechanism. Several of these movements may be regarded as *specialities* for the Zander system and can not be effected by manual massage, e. g. rubbing of the foot, vibration of the ischium, raising of the pelvis, etc. Vibratory or shaking movement can also be produced by hand, but they cannot be compared with the delicate and steady movements secured by Zander's apparatus. In order to complete his medical equipment, Zander has also constructed a number of *orthopedic* apparatus for the treatment of curvature of the pine, a speciality in which he has obtained specially good results. In order to measure mathematically the curvatures of the spine, and to represent them graphically, Zander has constructed several "trunk-measuring" apparatus considered to be the *best* hitherto invented. A complete Zander institute has 72 different implements and appliances at its disposal.



G. Zander.

Equipped in this way, the Zander gymnastics have been much and variously applied in the service of medicine and hygiene. They are thus employed with great advantage to develop children who cannot, on account of weakness, take part in the ordinary pedagogic gymnastics. They provide a wonderful dietetic remedy for persons who lead a sedentary life, or have an occupation conducive

to one-sided development; and it may with reason be affirmed that when people grow too old for active sport, the Zander or the *manual* method of gymnastics offers a substitute for it. This is its sphere of activity in the service of hygiene. In the province of therapeutics it is employed like manual gymnastics; first of all, in affections of the heart and in nervous troubles, in which it plays a specially important part. In scoliosis it is of the greatest importance; and in many forms of gastric trouble, such as constipation, no other treatment can be compared with it. In co-operation with medical therapeutic treatment, it is of great value in affections of the lungs, in female abdominal complaints, in hemorrhoids, in general constitutional disorders, such as anæmia, abnormal obesity, diabetes, etc.

In muscular and articular complaints, whether from traumatic or rheumatic causes, it is employed with great benefit. Gymnastic treatment is remarkably suitable after massage treatment, to render the effects of the latter more enduring.

At watering places and hydropathic establishments it has been introduced, with success, as is universally acknowledged.

In Germany the Zander gymnastics have been widely employed in connection with accident insurance, where there was need of treating *on a large scale* the consequences of bodily injuries caused by accidents met with at work. The injured workman was certain to be readily discharged from hospital but *incompetent* to resume work.

In order to diminish the degree of disablement *asylums* have been established for the treatment of injuries by accident, which is gratis. The results have been splendid: in most places the compensation payable for disablement has been reduced to about 40 %. Such asylums now exist in many hospitals provided with the Zander method. In Sweden such compensation for bodily injuries has not been made compulsory by law until recent times; and the injured persons obtain, gratis, treatment in a number of gymnastic institutes, where trained operators are available; and recently special masseurs have been appointed for this purpose in the majority of the country hospitals in Sweden. In several Zander-institutes abroad out-patients are received and treated under the superintendence and control of the physicians. At the great modern institute in Stockholm, the mother institute for Zander's gymnastic methods, a large number of foreign doctors have studied. This, which is now the *only* one of its kind in the capital, has, on an average, been attended by 300—600 patients annually. The scheme has called forth an abundant literature, not only from the pens of Dr G. Zander and Dr E. Zander, but also of Dr A. Levertin; and in Germany those of Doctors H. Nebel and Hasebroeck in Hamburg, Professor G. Schütz in Berlin, etc. In 1911, under the editorship of Professor I. Rüdinger of Würzburg, a memoir was published in the "orthopedic archives", in honour of Dr G. Zander's seventy-fifth birthday, and in it a large number of his pupils and other doctors who employ his methods subscribed 25 different articles, in which the great work he has accomplished in the service of suffering was unanimously commended and acknowledged.

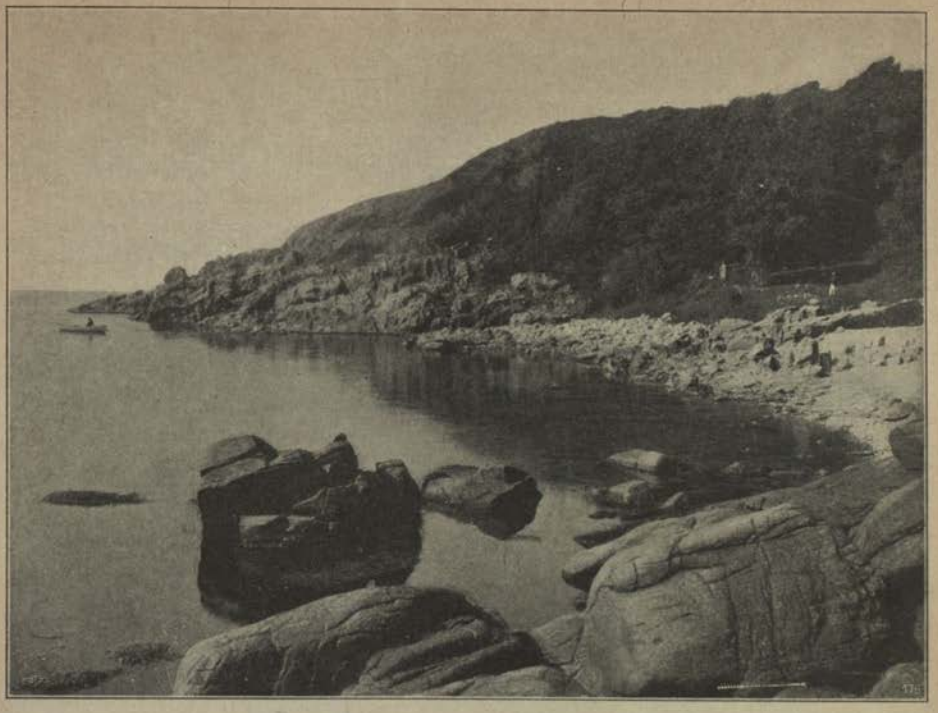
6. TOURING.

Introduction. Organization.

Seen from the tourist's point of view, Sweden may be said to consist of three great provinces, differing widely from each other both in their natural character and in the life and occupations of the inhabitants — Southern Sweden, the Forest Region, and the Alpine Regions. *Southern Sweden* presents to the gaze of the tourist lowland scenery of a charming character; its comparatively populous districts have been cultivated from ancient times and possess numerous monuments of their ancient history, from the graves of the Stone Age and the rock-pictures of the Bronze Age to the magnificent castles and country mansions, dating from the period of Sweden's political greatness (1611—1718). The *Forest Region* or, roughly speaking, the eastern half of Northern Sweden, gains its character from the immense stretches of forest in which it abounds, broken only by huge rivers and other waterways. The principal attractions for tourists in this region consist of the great lakes, the river valleys with their multitude of majestic waterfalls, their lively timber-trade and the salmon fisheries. Finally, the *Alpine Regions,* or the western half of North Sweden, is a wild tract of country, inhabited almost exclusively by the nomadic Laplanders and a few settlers from other parts of Sweden, where the tourist has excellent opportunities of enjoying the delights of a picturesque camp-life amid surroundings of an alpine world, whose summits, it is true, as a rule do not much exceed 2 000 meters in height, but which, in consequence of its northerly latitude, possesses large glacier-districts, and which, thanks to its wealth of small lakes and the remarkable character of the birch-vegetation, has a special beauty of its own.

It was not before the two last-mentioned parts of the country were placed in convenient communication with South Sweden by means of the main lines to Norrland, constructed in the eighties and nineties, that the interest for touring their own country awakened among the Swedes. But then it was discovered that the landscape in the North of Sweden possessed treasures of beauty which, to the greater part of the nation, were as good as unknown, and this discovery gave rise to the formation of a Swedish Tourist Association. Begun in 1885, by students of the university of Uppsala, but with its headquarters transferred to Stockholm in 1887, **the Swedish Tourist Association** has ever since directed the development of Swedish tourist life.

The Association, which enjoys the patronage of H. M. the King, has become so very popular that, at the close of 1913, it numbered 56 382 members and 1 155 agents. The impulse given by the birth of the Association has led to the formation of smaller tourist associations in various parts of the country, whose aim is to further the interests of their respective districts.



Ransvik, at Kullen (Skåne).

The programme of the Association is considerably more extensive than those of the Alpine- and Tourist Associations existing abroad. In the first place, the Association has devoted its energies to the task of spreading among Swedes themselves a knowledge of Sweden, and of awakening an interest in the study of the natural features and the people of the country. For example, it issues a profusely illustrated annual, which is distributed gratis to those paying the yearly subscription of 3 kronor; at the present time this annual is a book of some 400 pages with descriptions of various parts of Sweden and a large number of well executed pictures of different parts of the country. The Association also makes grants for the furtherance of scientific investigations likely to be of use or interest from a tourist point of view, and every year it makes grants to a great number of elementary and secondary schools in order to promote or assist the summer-tours of school children, besides which it arranges lectures, exhibitions, etc. It has also founded a very extensive collection of photographs and, in this connection, has arranged several photographic competitions. In order to facilitate travelling within the country, the Association has had a large number of guide-books written; it has erected a large tourist-station at Abisko in Lappland and a number of tourist-huts in the mountain-districts of the country, and has placed quite a fleet of boats on the Lappland lakes. Roads, too, have been constructed, guides appointed, and view-towers erected, etc. In addition, the Association has endeavoured to bring about various reforms as regards the hotels and the routes and means of communication, and to procure for its members cheaper travelling by means of rebates obtained from hotels, railways, steamboats, etc.

In consequence of the economic importance for the country of attracting tourists from abroad to Sweden, the Association has, for a succession of years, devoted much care to this matter and has been very successful in distributing in foreign countries a large number of tourist publications respecting Sweden, while, by means of newspaper articles, lectures, exhibitions and the like, the Association has endeavoured to direct the attention of foreign tourists to the natural attractions possessed by the country.

On the West Coast of Sweden.

During the last few years, however, the work of advertising the leading features of Sweden as a country for tourists has lain chiefly in the hands of the *Tourist Traffic Society* (Sw. Turisttrafikförbundet) to which a number of railways, steamboat companies, hotels, etc., have made yearly grants. The Society obtained a more solid financial basis by the foundation by some of its members in 1909 of the Tourist Traffic Society's Restaurant Company, which, in accordance with an agreement come to with the Board of the State Railways, took over the dining-cars running on the State Railways south of Stockholm, as well as the restaurants at various stations and on steam-ferries.

In 1909, the Tourist Traffic Society, in connection with the opening of the steam-ferry route Trälleborg-Sassnitz, opened the "Schwedisches Reisebureau", 22 & 23, Unter den Linden, Berlin. A grant was made by the State to this tourist office, which has since been continued annually. In 1913, a Swedish Tourist Office was established in Paris. The Society has an agency in London,

while about 200 agents, chiefly tourist offices, watch over the interests of the Society in various countries.

As a means of advertisement, the Tourist Traffic Society has employed illustrated pamphlets, of which several hundred thousand copies have been issued in various languages and editions, besides which the Society has issued placards, time-tables, etc. The Society, like the Swedish Tourist Association, has supplied foreign illustrated newspapers and magazines with photographs and plates, has taken part in exhibitions, given journalists from abroad opportunities of travelling in Sweden, etc. The task of the Society, however, is not only the distribution of publications for the purpose of increasing the number of tourists visiting the country, but also to endeavour to bring about improvements in the Swedish hotels, etc. In order to increase local interest in the work of the Society, and in order to be able to issue local publications, special local associations have been formed in Stockholm, Gothenburg, and Malmö — the last-named embracing Skåne, Halland, Blekinge, and Kalmar Län in Småland — while several other local associations are in course of formation.

Sweden as a Country for Tourists.

For the special benefit of the non-Swedish readers of the present work, some general information for tourists will be given below, together with a somewhat more detailed account of the places and tourist-routes that are chiefly deserving of interest.

Suitable time for travelling in Sweden. In South Sweden, summer lasts, as a rule, from the close of May to the end of September; in Central Sweden, from the beginning of June to the middle of September; and in North Sweden, from the middle of June to the middle of August. The length of the summer varies of course according to the position and height above the sea of the various parts of the country. An attractive summer phenomenon of peculiar effect is that of the "*white nights*", as the long, light nights are called that are enjoyed in Central and North Sweden; another great attraction is the *midnight sun* in Lappland. An account of these white nights is given in the chapter on Climate in the present work. Here it need only be pointed out that the midnight sun is visible from the beginning of June to the beginning of July at Gällivare, Kiruna, Abisko, and other places along the railway line from Luleå to Narvik, and that these light-enveloped districts of the midnight sun are reached by through trains from Stockholm.

For winter visits, Stockholm is a suitable place during January—March, Dalarne and Jämtland at the same time of the year or even a little later.

Travelling communications. In proportion to the area and population of the country, the communications are exceedingly good. The main lines of the State Railways are traversed by express trains which, in comfort, surpass the greater number of such trains in Europe, while the rolling stock of the private railways stands, as a rule, at a very high level. There are dining- and sleeping-cars on the principal lines. The steamers are comfortably fitted up, and are distinguished by an orderliness and a cleanliness that awaken the admiration of the stranger. This remark holds good not only for the coastal steamers but also for the numerous larger or smaller vessels that ply on the lakes and rivers. The fares are low. In consequence of the existence of the zone-tariff-system the railway-fares for long distances are exceedingly low, a second class single ticket for a distance of 1 500 km costing only 36 kr. There are fully up-to-date hotels in the large towns and also in a number of the smaller ones,

while, even if elsewhere the traveller must not entertain too great expectations as regards the hotels, he will discover with satisfaction that they are everywhere exceedingly clean.

Outside the larger towns some little knowledge of Swedish is necessary for the traveller, but whereever he may come, the stranger will always be certain of being received in a most kindly fashion.

For tours in the mountain-districts special equipment is necessary, information respecting which can be had through the Swedish Tourist Association.

The daily charges for board and lodging with attendance may, by travellers who are not altogether too exacting in these respects, be estimated at from 10 to 12 kr. per day. In the pensions the prices are from 5—7 kr. per day if a long stay be made, while, at the greater number of the seaside-places, the prices are still lower during the summer.

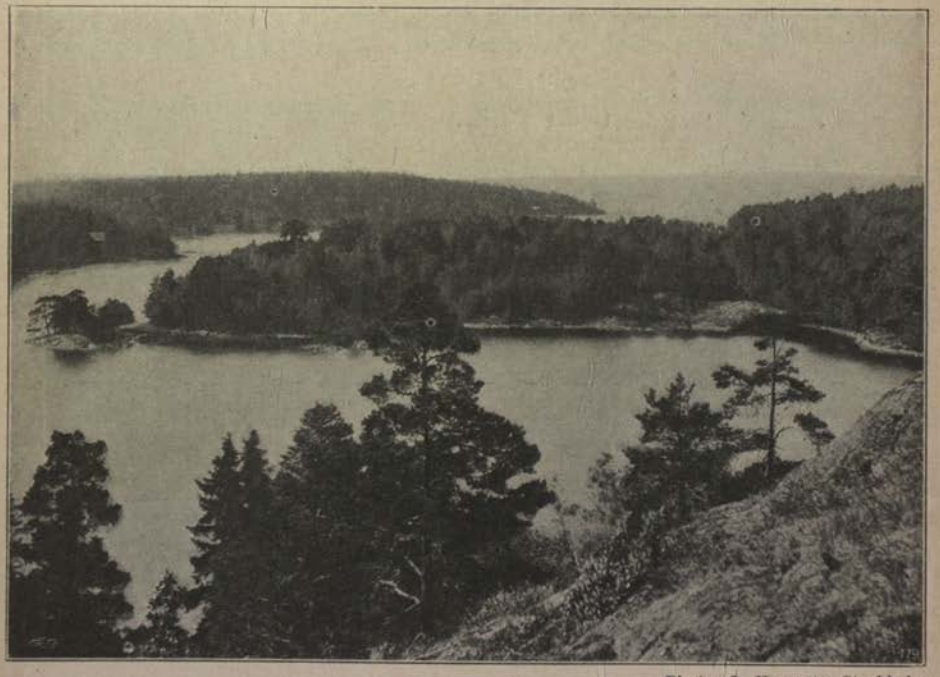


Photo. O. HALLDIN, Stockholm.

From the Stockholm Skerries (Gustavsberg).

Motor-car-, cycle- and canoe-trips. Although Swedish highroads cannot compare with those of the continent, motor-car- and cycle-trips can be easily made almost anywhere in the country. There is a map published showing the roads suitable for motor-cars, and other information can be had from the Royal Automobile Club (Kungliga Automobilklubben), Stockholm. A large number of the Swedish water-ways are very suitable for interesting canoe-trips.

Maps. The Swedish Tourist Association has issued special maps of a number of the tourist-routes. The General Staff has published maps of the greater part of the country, those for the southern districts being on the scale 1:100 000 and costing 50 öre per sheet, while, for the northern part of the country, they are on the scale 1:200 000 and cost 75 öre per sheet. These maps can be had from any Swedish bookseller.

Tourist-centres and tourist-routes. Among the most important of these may be mentioned the following in the southern, central and northern parts of the country.

1. South Sweden. If by South Sweden we mean that part of the country lying south of the 58th degree of latitude, with the addition of the strip of Bohuslän coast along the Skagerrak, we obtain a district whose fundamental natural features are different from those of the north of the country, and which contain a large number of tourist-centres of the most varied description.

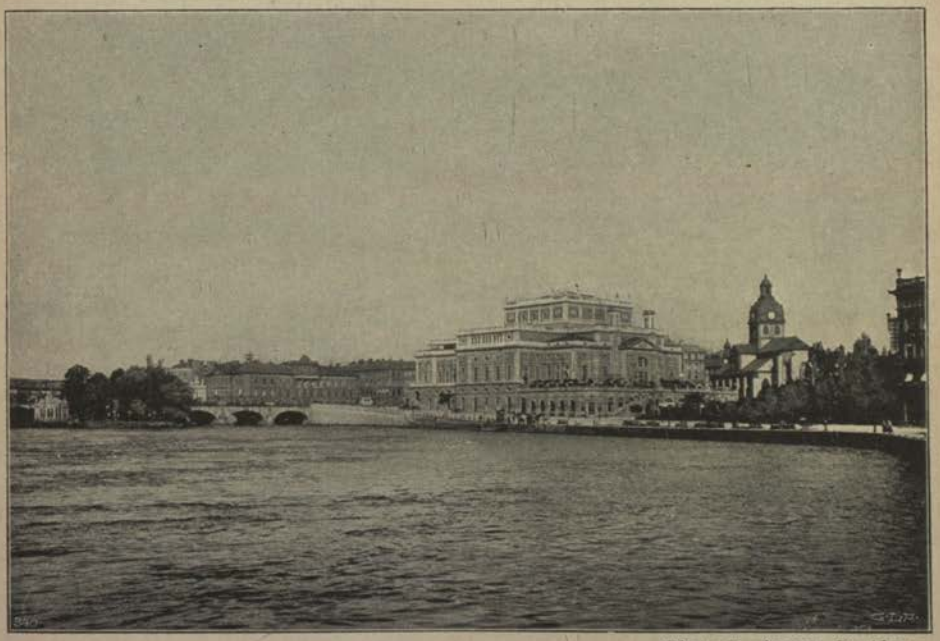
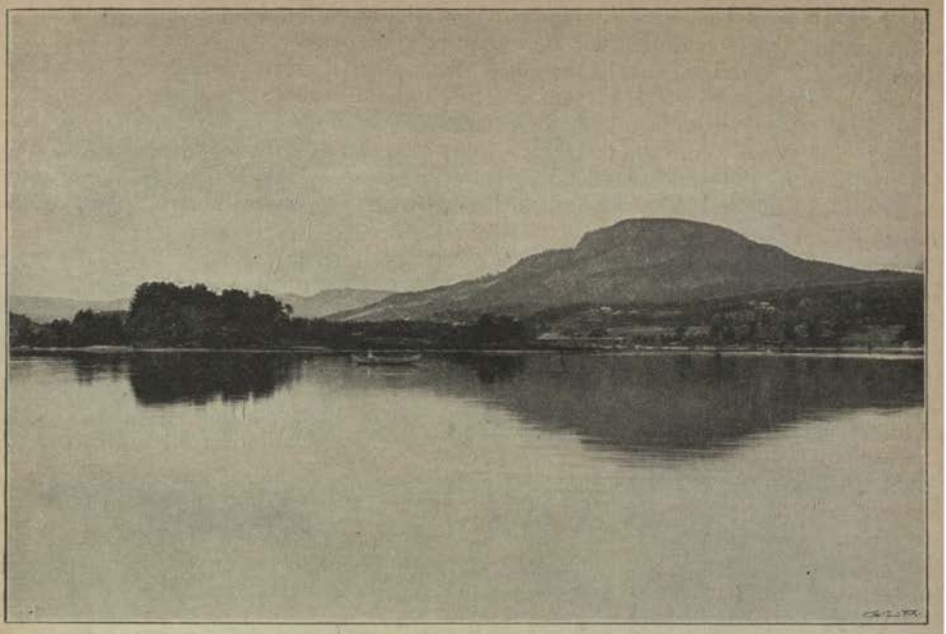


Photo. B. ORLING, Stockholm.

The River Norrström, Stockholm.

The most southerly part of this district consists of Skåne, the most thickly populated and richest province of Sweden, whose fertile plains lie framed in beech-forests and lines of low hills (Sw. åsar), which attain heights of up to 200 meters. The most noteworthy of these heights are: *Kullaberget* or *Kullen*, a hill whose steep, splintered cliffs project between the Sound and the Kattegat, and which is a much frequented tourist-centre. North of Kullen, on the boundary of Halland, a still higher ridge runs out into the sea, and here we have another much favoured seaside-place called *Båstad*. The remainder of the Skåne coast is, in general, a low, sandy shore, offering splendid opportunities for good bathing. *Falsterbo* and *Ystad* are the principal *seaside-places* here.

The *Sound* (*Öresund*), which separates Sweden and Denmark, and which, at its northern extremity, narrows to a breadth of only a very few kilometers, is one of the most beautiful and liveliest waterways in the world. In the Sound lies the island of *Ven*, where the celebrated astronomer, Tycho Brahe, had his observatory. In the narrowest part of the Sound lies the beautiful city of *Hälsingborg*. The town possesses a mineral spring, while not far off we have the watering-place and wells of *Ramlösa*.



Lake Torpsjön, Medelpad.

Among the towns of Skåne, the first place both as a residential and industrial centre is occupied by *Malmö*, the chief point of arrival and departure for travellers from abroad to Scandinavia (museum, parks). In the university town of *Lund* we find the chief architectural glory of South Sweden — the Romanesque cathedral with its crypt. Among other sights may be mentioned the cultural-historical museum, which is the largest provincial museum of its kind in Sweden.

Skåne is exceedingly well provided with various lines of railways, providing frequent and rapid communications. There start from Malmö two important State Railway lines: the one north-westwards to Gothenburg, and the other north-eastwards to Stockholm, with numerous feeder-railways from east and west. In addition to this, well-appointed steamers ply along the coast of the province, making it possible for the tourist to enjoy a series of combined journeys by rail and steamer.

If we go by rail from Malmö to the north-west, along the *west coast* we pass, after leaving Skåne, the interesting län of Halland, which is traversed by a number of rivers where salmon are caught in large numbers; the scenery of Halland in the north of the province assumes a growing likeness to that of the Bohuslän coast, with naked rocks and islands. Here lies the popular seaside-town of *Varberg*.

Gothenburg, the second city of the Kingdom in size and its most important seaport — with direct steamboat communications with Great Britain, Holland, Belgium, France, etc. — has a number of sights, among others, a public museum, possessing representative collections of Swedish art, model public parks, etc. North-east of Gothenburg lie the world-renowned waterfalls of *Trollhättan*, which, in part, are employed as an immense electric power-station.

The coast of Bohuslän is characterized by fiords with precipitous shores, and by an archipelago, consisting for the most part of naked islands, against which break the salt waves of the Skagerrak. Here we find a great number of seaside-places, the largest of which are: *Marstrand*, *Lysekil*, and *Strömstad*. The chief attractions are bathing, fishing, and yachting.

The central part of South Sweden has its tourist centre at Lake *Vättern*. At the southern end of the lake is situated, amid very beautiful scenery, the town of *Jönköping*, world-renowned for its matches. Besides railway connections, Jönköping has also steamboat lines running to Stockholm viâ the Göta Canal (see below), and local steamers to the historically interesting island of Visingsö, to Grenna and Motala. West of Jönköping lie the sanatorium and watering-place of *Ulricehamn*.

The eastern part of South Sweden, farthest to the south, and east of Skåne, embraces the government district of Blekinge, which, from its charming scenery, is called "the garden of Sweden". The coast is, to a great extent, protected by an archipelago. Here lie *Karlskrona*, the most important naval station in Sweden, and the much frequented watering-place of *Ronneby* with powerful chalybeate waters.

On the narrow channel between the mainland and the island of Öland lies *Kalmar*, with an interesting castle from the 16th century. Kalmar has direct steamboat communication with Lübeck, the various Swedish coast towns and the islands of Öland and Gottland. On Öland lies *Borgholm*, the stateliest ruined castle in Sweden, close to which there is a popular seaside place of the same name, celebrated for its mild climate.

Visby, on the island of Gottland, "the pearl of the Baltic", is one of the sights of Europe. In the days of the Hanseatic League, Visby was a mighty and wealthy mercantile centre, of whose glories there now remain merely some magnificent church ruins and a circular city-wall with some forty towers. The situation of the city on the precipitous shore is picturesque, an impression which is increased by the dwarfed houses and the numerous rosegardens lying among the ruins. — Visby is the city of ruins and roses, but it is also a pleasant seaside place, reached most conveniently by steamer from Stockholm.

Photo. GERDA SÖDERLUND, Leksand.

From Dalarne (Hedens by and Lake Styrsjön).

The River Indalsälven at Linkärsöarna.

The *Göta Canal* lies like a blue ribbon across the country from the North Sea to the Baltic. The name of this waterway is not quite an accurate one, as the Göta Canal proper extends for only a part of the distance traversed by the boats, but, as a tourist route, the title is given to this water-way as a whole. It begins with the river Göta älv, at Gothenburg, continues through the Trollhätta Canal by means of a series of locks, the total drop of which from the highest to the lowest water-levels is 33 meters; it then proceeds across the mighty Lake Vänern, passes through a system of canals and locks, and through a series of small lakes, from Lake Vänern to Lake Vättern, crosses the latter lake and proceeds once more, viâ a fresh succession of canals, locks, lakes, and rivers to the Baltic, which is traversed for a small distance until the canal-route proper is again entered south of Stockholm. The route then passes through the short Södertälje Canal and along Lake Mälaren to Stockholm. The trip, which is world-renowned, thus carries the tourist through the largest lakes of Sweden — which are at the same time, two of the greatest inland seas of Europe — and also through a country rich in varied scenery, giving typical pictures of the idyllic beauty of a Central Swedish landscape. The journey should preferably be made during the period of the light summer nights. The steamers, which pass some 70 locks, occupy 56 hours on the journey. The time taken by the vessel in passing the locks is usually spent by the traveller in visiting some place of interest close by.

The most beautiful sections of the Göta Canal route are traversed, too, by the steamers on the line between Jönköping and Stockholm.

2. Central Sweden. By this is understood, from the tourist's point of view, the country close to and around Lake Vänern, the northern part of Lake

Vättern, the districts near Lakes Hjälmaren and Mälaren, and the province of Dalarne. South of lake *Vänern* lies the hill of *Kinnekulle*, with extensive views and an interesting flora. Among the towns in this tract — the fertile län of Västergötland — may be noted *Skara* (fine cathedral), and, among the watering places, *Mösseberg*. Between Lake Vättern and the Baltic extend the fertile plains of Östergötland, which are rich in historical memories. Among the towns should be mentioned the commercial and industrial centre of *Norrköping*, *Linköping* (interesting cathedral), *Vadstena* (Renaissance castle and a most interesting abbey-church with memories of St. Birgitta of Sweden); among the watering-places and wells, *Medevi* and the *Kneippbaden* near Norrköping.

North of Östergötland Län and between Lake Mälaren and the Baltic lies the charming province of Södermanland, the principal sights of which belong to the surroundings of Stockholm. Between Södermanland and Uppland — the latter one of the most interesting of the various läns of Sweden from an historical point of view, lies **Stockholm,** the goal for most tourists to Sweden, and celebrated as one of the most beautifully situated cities in the world. Just where the waters of Lake Mälaren flow into a deep bay of the Baltic, which is studded by thousands of islands and holms — as are the coastal waters of the mainland for 200 km northwards and southwards from Stockholm — lies the capital of Sweden, built on islands and peninsulas, and surrounded by scenery whose original beauty the presence of this modern metropolis cannot altogether hide. It is this rare union of nature and culture that gives Stockholm its special interest, and the city has one of its principal sources of attraction in the beauty of its immediate surroundings.

Among the chief sights in the neighbourhood of Stockholm may be men-

The Falls of Tännforsen (Jämtland).

tioned the lively little garrison-town of *Vaxholm*, lying on the main route of the steamers which carry on an animated traffic between islands whose gaily-coloured villas stand out against the dark background of rocks and wooded cliffs. Then we have the fashionable watering-place of *Saltsjöbaden* and, in Lake Mälaren, whose waters abound in idyllic scenery and are studded with a multitude of charming islands, *the royal palace of Drottningholm*, *Gripsholm*, — the most interesting castle in Sweden from an historical point of view — and *Skokloster*, with its exceedingly valuable collections from the Thirty Years' War. There are many summer resorts both on the Baltic and on Lake Mälaren.

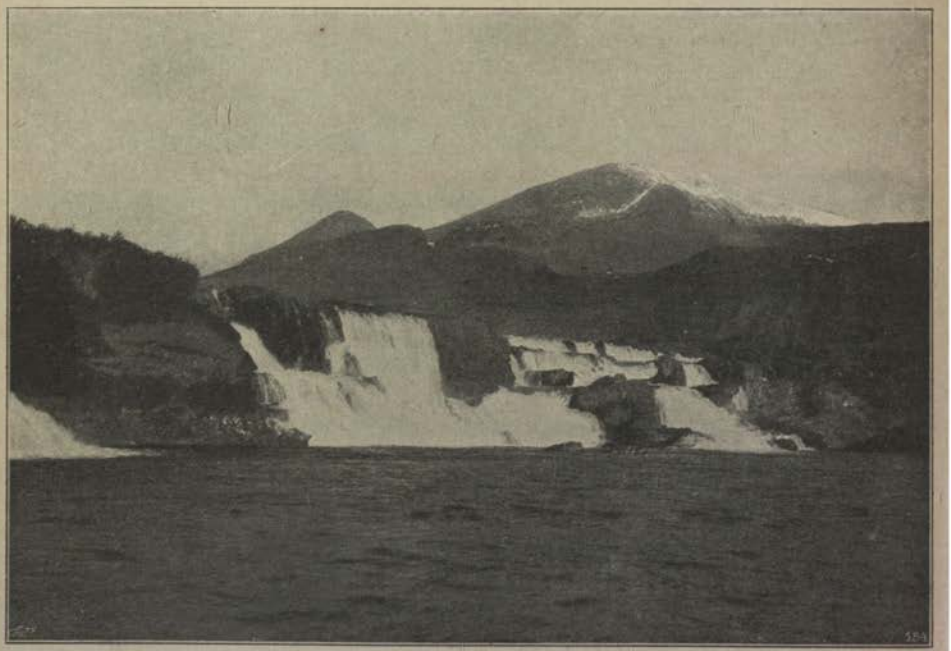


Photo. Borg Mesch, Kiruna.

The Falls of Stora Sjöfallet (Lappland).

In addition to excursions to these places, trips can be made to the University city of *Uppsala* (cathedral, the university institutions, Gamla Uppsala, with its tumuli from the heathen times, etc.), *Älvkarleö* waterfall, *Visby* (see above), and also to other provinces in Central Sweden, e. g., Västmanland (*Västerås*, with a fine cathedral), Närke (*Örebro*) and, above all, Dalarne and Värmland. The western portion of Västmanland, the south of Dalarne, and the eastern district of Värmland are called "Bergslagen" (or iron-mining districts), characterized partly by the grandeur of their scenery and also by the numerous iron mines, which employ 30 000 men and of which the largest are those called the *Grängesberg* mines.

Dalarne. An important rôle in the history of Sweden has been played by the people of Dalarne, and, in our own times, both the scenery and the inhabitants possess a distinctively Swedish character. This is the meeting place of idylls and of grandeur, of quiet lakes and rushing rivers, of fertile field and solemn, forest-clad, blue-gleaming heights, which, towards the north-west, merge into the naked wastes of the fells. Here we find, too, a peasant-culture and manners and customs sanctified by long usage — all this, too, magnificent in its kind

— which contact with modern days has not been able wholly to destroy. *Rättvik, Leksand, Floda*, and other places still preserve the many-coloured national dresses, and a Sunday spent at any one of the places just mentioned, when the church-goers are assembled in their national dress, presents pictures which are as unique in their beauty as they are touching in their effect.

At *Falun* there is a copper mine, once the richest in the world.

Värmland. Like Dalarne, the extensive län of Värmland is a country distinguished by many streams and mile-wide forests. Of late years this province has been brought before the eyes of the European public mostly by means of Selma Lagerlöf's story, "Gösta Berling's Saga", the scenes of which are laid in the districts around the Fryken lakes. Among other places in Värmland may be mentioned *Filipstad* (with John Ericson's grave in "the most beautiful church-yard in the world").

Communications to and within Central Sweden. From Malmö the State Railway line runs through the provinces of South Sweden, Östergötland, and Södermanland to Stockholm, in addition to which there is steamboat service around the coast. From Gothenburg there are three main routes to the capital; the first, the direct State Railway line; the second the Bergslagen Railway lines (Gothenburg—Falun), which run through Värmland and Dalarne and, at Ludvika, are connected with the Stockholm—Västerås—Bergslagen Railway (through trains Gothenburg—Stockholm); the third is the above-mentioned Göta Canal. From Stockholm there are three routes to Dalarne; via Ludvika, Gävle, or Krylbo, while in Dalarne there are railway communications with all the most important places of interest.

3. Northern Sweden. *Jämtland.* Among the many beautiful provinces of Sweden, Jämtland occupies a very prominent position. Mighty mountain-chains, covered here and there with fields of eternal snow, traversed by the wandering Laplander with his herds of reindeer; deep valleys, where waters glitter and waterfalls thunder; magnificent views across immense landscapes; all these attract the tourist to the province. Jämtland, above all, has been called "the land of waterfalls", on account of the great number of cataracts there, such as *Tännforsen* (30 m high, 70 m wide), *Storbo, Ristafallet, Handöl*, etc. The highest mountain-peaks are *Syltopparna*, 1 765 meters.

The ozone-laden air has led to the establishment of a number of cure- and recreation centres. Among the last-named may be mentioned, *Åre, Duved, Enafors*, and *Storlien*, all of which are winter-sport places, too.

There are through trains from Stockholm to Storlien. In the summer season the tourist can also go by steamer direct to Sundsvall, and thence by train through Jämtland.

The rivers Indalsälven and Ångermanälven. These two rivers are among the largest in Sweden, the former being 316 km long, the latter 389 km. Both play an important rôle in the timber-export trade of Sweden, unheard of quantities of timber being transported on them from the great forests to the sea. At the mouth of the Indalsälv lies the greatest timber-exporting port in the world — *Sundsvall.* This timber-floating and the many large saw-mills at the mouths of the rivers alone, are worth the attention of the tourist. But, in addition, the rivers themselves are magnificent and flow through grand northern scenery. A trip on the river Indalsälv, above all, is most interesting, among other things from the fact that one of the steamers taken on the journey, runs down large, foaming rapids.

The routes are either by the State Railway line from Stockholm to *Bispgården* (for the river Indalsälv), or *Sollefteå* (for the river Ångermanälv), or by steamer from Stockholm to *Sundsvall* or *Härnösand.*

Lappland. This, the northernmost province of Sweden, is traversed by the most northerly railway in the world, the last section of the State Railway that runs through Upper Sweden. A journey of 36 hours in comfortable railway-carriages brings the tourist from Stockholm to the land of eternal snow and of the midnight sun. A rapid journey by train, however, gives the tourist but little opportunity to form a real idea of the scenery of Lappland; to be able to do this, the traveller should stay some time in the province, and make excursions here and there in the far-stretching wastes.

Against the Rapids.
From a painting by JOHAN TIRÉN.

Areas here are of vast extent; greater than what is usually supposed. The government district of Norrbotten is larger than Portugal, and there are parishes that are larger than the kingdom of Saxony, but in spite of this fact, the tourist will have no great difficulty in visiting some of the chief sights of Lappland. At *Gällivare* and *Kiruna* there are iron-fields of immense extent, the ore of which is now being mined and exported on a very great scale. From Gällivare there is a local line to Porjus, where the waterfall of the same name is employed for an electric power-station, which is to provide the motive-power for the railway-line between Luleå and the Riksgränsen (the frontier station towards Norway). From Porjus it is only 12 km to the tremendous waterfall of *Harsprånget*, which is 74 m high, and where the flow of water is 700—800 cubic meters per second; from this spot an excursion of a couple of days — the greater part of the distance being covered in a rowing-boat — brings the tourist to the waterfall called *Stora Sjöfallet*, which disputes with Harsprånget the premier place among the many waterfalls of Sweden. The country round the waterfall has been turned into a national park.

From *Abisko* tourist-station, lying on the beautiful lake *Torne träsk*, the "Lago

Maggiore" of Lappland — this district too is a national park — excursions can be made fairly inconveniently among the surrounding mountains. A comparatively convenient, but magnificent trip is that from the railway station of *Murjek* to *Jokkmokk* and *Kvikkjokk*.

Apart from this, too, North-Western Lappland, with its snow-covered mountains and glaciers, its lakes, which lie dreaming in the light of the midnight sun, and its foaming waterfalls, gives opportunities for many magnificent tourist-excursions but, as has been mentioned above, these can only be enjoyed by such tourists as are specially equipped for spending some time among the wilds, and who are accustomed to making pedestrian tours of many miles in length.

Photo. Borg Mesch, Kiruna.

Kebnekaise (Lappland).

7. ATHLETICS AND SPORT (IDROTT).

"Idrott" (athletics and sport) is an ancient Swedish word, which shows that these exercises were in vogue amongst the Swedes from the earliest times. In ancient times, the Viking who roved from place to place conquering and colonizing, attracted the attention of the world by his physical beauty, his vigour, and his sagacity. It was a custom of these inhabitants of the North to develop their strength, suppleness of limb, and courage, just as the culture of the mind was promoted by exercise in the art of poetry and in jurisprudence. Their principal sports consisted of *racing*, either with or without armour; different kinds of *running* and *leaping; wrestling* and other contests and trials of strength; *ski-running, skating, swimming, riding, javelin-throwing, archery*, as well as *fencing* with sword and shield. Besides these, there were many *throwing* and *running games*, principally *ball-sports*. *Hunting* and *fishing* were also highly

esteemed by the Swedes, not only as means of livelihood but also as sports, when it was a question of taking care of themselves in the woods, in the field, and on the water. The fact that the sea-faring Northerner was a great sportsman and warrior is attested not only by the history of the North but also by that of several other countries.

The sports mentioned above are thus almost the same as those which have remained practically unaltered through the centuries down to our own days, and we may therefore suppose that the Scandinavians of olden times had, by means of sport, attained the height of physical development. That those Scandinavians who, for centuries, colonized England brought with them to that country their games and sports is beyond question, and thus they have contributed towards the establishment of English sports, among which the athletic exercises mentioned above are to be numbered.

Athletics and sports have always been held in great honour by the inhabitants of Sweden. About the middle of last century, however, they were by no means in a flourishing state, and the Swedish national games were on the point of dying out entirely. But new life has been infused into Swedish sport by the recently awakened spirit of athletics which has spread over the country during the last ten years, and it has, moreover, been influenced by the enormous interest in athletics and sport characterizing the present time. Swedish sport has thus naturally acquired a more modern stamp, even though some of its branches, being purely national, have preserved their original northern character; this is especially the case with the winter sports.

Winter sports, by which we mean exercises requiring ice or snow for their pursuit, have never shown any signs of dying out in Sweden, even though the graphic curve presents descending as well as ascending portions. This kind of sports has always been thoroughly national and independent. By means of contests and careful attention they have, however, developed to a pitch of perfection hitherto unknown.

Skating is the sport most in vogue in the country, for, thanks to Sweden's great expanses of water, the sport in question is so popular that, without exaggeration, it may be said that nearly everybody can skate. Skating has of late years become as general among women as it is among men. Even among country folk skating is quite a common thing, partly as a pastime, partly as a practical means of rapid progression over the numerous fiords. Swedish skaters have won recognition and distinction even abroad, and in 1911 *both* figure-skating championships were won by Swedes, while the championships of Europe, as well as that of the world, have, at the international contests arranged by the International Skating Union, been several times won by Swedes. (The world's championship for ten years running). The Union in question, which embraces sixteen countries, is directed to a certain degree from Sweden, which provides the chairman and the secretary. In speed skating, Sweden has also produced many good exponents, who have won championships at the international races abroad. *Stockholms allmänna skridskoklubb* (The Stockholm Skating Club) was the body that first took the lead in this department. Of late years, a very great number of skating clubs have sprung up in Sweden, and in most of the larger towns we find either natural or artificial skating rinks.

From the Olympic Games in Stockholm, 1912.

1. Hurdle racing. — 2. Principal entrance of Stadium. — 3. 1 500 meters Flat. — 4. Putting the weight. — 5. Swedish gymnastics. — 6. Throwing the javelin. — 7. Cross-country race: after the start. — 8. King Gustaf V crowning the winner of the Marathon race. — 9. Cheering the winner of the Prize-riding competition. — 10. Yacht racing. — 11. Swimming race. — 12. Boat race (eights).

Ski-running — without doubt the grandest sport in existense — had lost ground in Sweden between 1860—80, and, practically, was seldom seen south of the river Dalälven. In the northern districts, on the contrary, ski-running has always been relied upon as a useful means of swift locomotion, and magnificent feats have occasionally been accomplished by the hardy inhabitants of those regions. In consequence of the newly awakened interest in sport everywhere in the country, this so-called "sport of sports" has become famous wherever there is snow. The rising generation now assiduously practises ski-running, which has attained such popularity among old and young, men and women, that it bids fair to put every other winter sport into the shade. In this instance, too, the stir brought about by racing has been productive of more general practice and greater development. *Föreningen för skidlöpningens främjande i Sverige* (The Society for the Promotion of Ski-running in Sweden) — a remarkably energetic association — has brought this branch of sport to the front by arranging contests in different parts of the country, and by appointing instructors to teach the young. The Society, moreover, issues a valuable Annual. More than a hundred ski-running matches take place every year, and there are a great many ski-clubs in the country. In addition, *Svenska skidförbundet* (the Swedish Ski Association) works for the development of the sport.

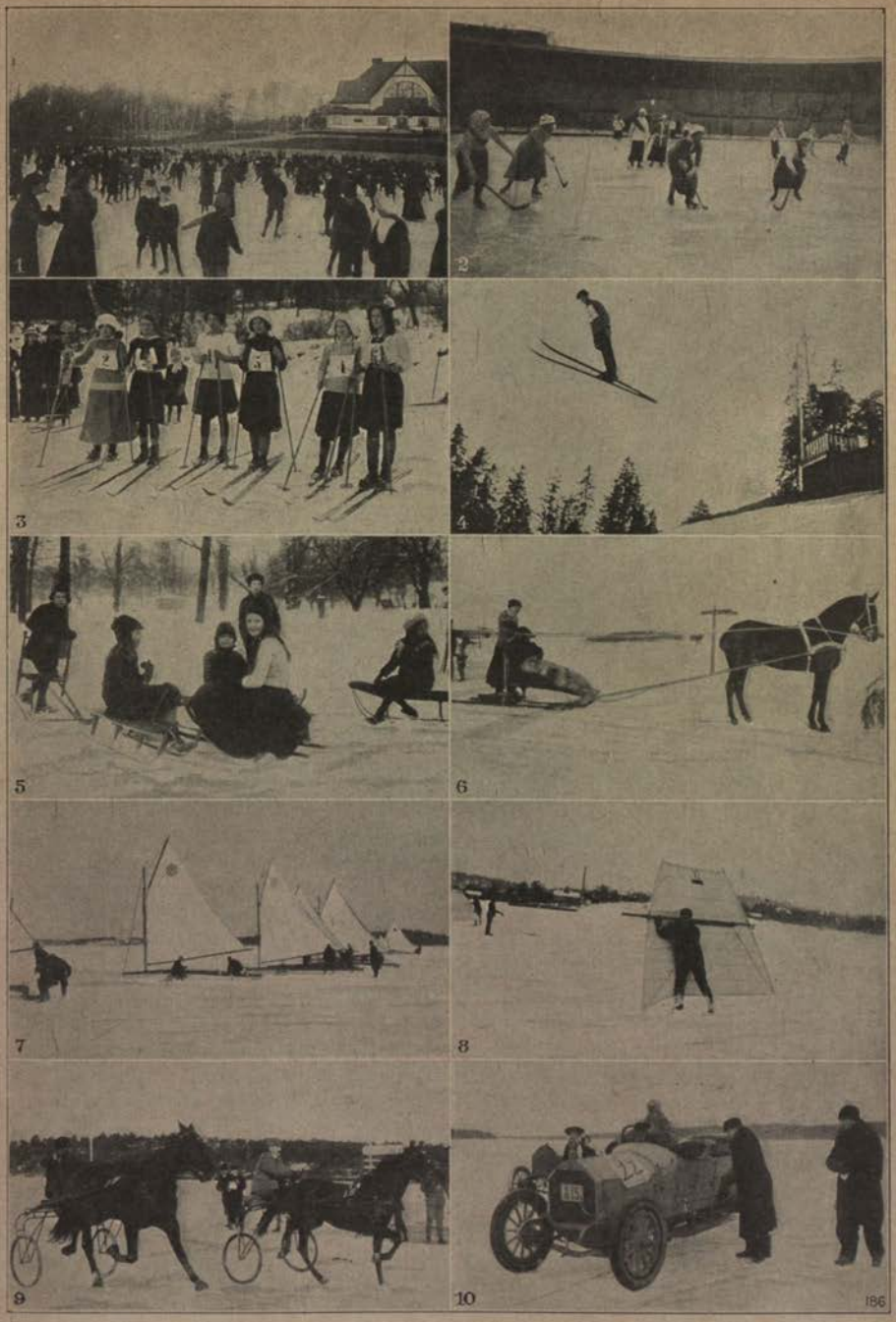
Ski-running — which has for its object to teach people how best to cross snow-covered country, in woods and fields, over ice and meadow, up and down slopes and fells — has two characteristic features: *distance running*, and *hill-ski-ing with jumping*. In both, distinct matches are arranged; sometimes with the two features combined. On hilly ground more than 30 meters have been covered at one jump, and mention is made of a jump of even 40 meters down a steep slope.

Another winter sport affording great pleasure to its votaries and which is a remarkable sight to watch, is *Skate-sailing*. During the last few decades, this has also developed into a true sport with highly interesting races, in which beating to windward and sailing with side-winds and leading winds occurs. On the fiords round Stockholm, when the ice is smooth, one can revel in the sight of the beautiful picture presented by some fifty white sails chasing each other with astounding velocity. On one occasion, when the wind was high, the speed was shown by the log to be 50 knots (about 58 miles an hour). There are also a number of skate-sailing clubs.

Ice-yachting, too, is much practised in Sweden, when the fiords are covered with smooth ice, the sport then being carried on with the liveliest interest by a large number of persons of both sexes, and it is not uncommon to see some forty or fifty beautiful ice-yachts flying across the wide stretches of ice in the immediate neighbourhood of Stockholm. The speed attained by these yachts is almost unlimited. Ice-yachting and skate-sailing are the two most characteristic winter-sports on the fiords around the Swedish capital, and there is hardly any place in the world with such a large number of devotees of these sports, or where ice-yachting and skate-sailing are so well directed by the clubs as in Sweden, and in Stockholm especially.

Sledge-kicking is a purely Swedish winter sport, which was originally a practical means of progression along the country roads; it is, however, now so common amongst the young people of Norrland that the "Sparkstötting" (kick-sledge) forms part of the winter equipment. It is, as it were, the winter bicycle, and on hard-beaten roads, during a sharp frost, or across ice, when the snow is not too deep, a good speed can be attained. Clubs have been organized and matches arranged for this sport, too.

Tobogganing has also been developed into a sport by the erection of ice-hills, one of which is kept up by *Föreningen för befrämjande av skolungdomens fria*



Winter Sports in Sweden.

1. Skating. — 2. Hockey on the ice (H. R. H. The Crown Princess's Hockey Club). — 3. Ladies' ski-race. — 4. Ski-jump. — 5. Sledges and kick-sledges. — 6. Kick-sledge drawn by horse. — 7. Ice-yachting. — 8. Skate sailing. — 9. Trotting on the ice. — 10. Automobile race on the ice.

lekar (The Society for the Promotion of Outdoor Sports for the Young), at Humlegården in Stockholm, where, on school holidays, toboggans can be reckoned by the thousand. Grown-up people, too, of both sexes, indulge in tobogganing, which is a very ancient winter sport much in vogue in social circles. There are many excellent toboggan-runs in the neighbourhood of Stockholm, such as those at Djursholm and Saltsjöbaden. Of late years, *bob-sleighing* has become naturalized in Sweden, and is now a much-liked winter-sport, especially at that great centre of Swedish winter-sports, *Åre*, in Jämtland.

Summer sports. Among such sports, the oldest and the most national is *sailing*, which dates back to the times of the Vikings. The sea-washed, tideless coasts and great inland waters of Sweden offer splendid opportunities for a sport so generally loved. Sailing clubs exist all over the country and, where none exist, sailing is nevertheless carried on. The love of boats and of water is inherent in the Swedes. Sailing has developed to an unheard-of extent during the last decade. *Kungl. Svenska segelsällskapet* (the Royal Swedish Yacht Club), which has its head quarters in Stockholm, is the largest yacht club in the world, both as regards the number of its members and of boats. Skill in boat-designing and boat-building increased in the same degree as Swedish yachtmen became filled with a livelier sporting instinct and, consequently, races increased in number and severity. For Swedish conditions, the building of yachts is carried on on an immense scale. A whole staff of skilful designers has arisen, and Swedish yachts which have won prizes on the racing-waters have become articles of export much in demand. Swedish yacht constructors have carried off international prizes for yacht-designs. National and international sailing-matches take place throughout the summer, everywhere in the country. The Royal Swedish Yacht Club's Week has become a kind of national festival, and international challenge cups are competed for interesting sailing-matches.

The sailing club next in importance to that mentioned above is *Göteborgs Kungl. segelsällskap* (the Gothenburg Royal Yacht Club), which has also a very grand racing-week. The Swedish yacht clubs form an association called "the Swedish Yachtsmen's Association".

No country is more suitable for *rowing* and *canoeing* than Sweden. The English have termed Sweden "the paradise of the canoeist". These sports are pretty actively pursued, and rowing clubs are found in most of the large towns. The rowing-boats used consist, as a rule, of racing outriggers of English type; on the coast, however, ordinary gigs are also used. Annual boat-races are held nearly everywhere, and, in the Sound, the Scanian rowing clubs have maintained their reputation by carring off the Sound Challenge Cup, presented for competition among the Danish and Swedish rowing clubs. The Stockholm Rowing Club had, in its day, crews that were considered invincible. These boat-races, too, have in many places developed into national sport festivals.

Among summer sports, *swimming*, however, may be said to be that most practised, and in this kind of sport Swedes hold a distinguished place, especially as regards diving and floating. Swedish swimmers have greatly distinguished themselves at swimming matches abroad, when their beautiful "swan-dive" has been much admired and has been described as unrivalled in its kind. Skill in swimming is fairly general among educated people of both sexes, and the many lakes in Sweden offer admirable opportunities for practice in the art. Swimming- and diving-matches are arranged annually in Stockholm, and it is chiefly in the capital that the art of swimming has reached such a high standard of development. There are, however, swimming clubs in many places, of which the oldest — that in Uppsala — has been in existence more than one hundred years. Swedes won the first prizes in diving at the Olympic Games in London in 1908 and at those held in Stockholm in 1912.

Playing "Pärk", outside Visby.

For so-called **general athletic sports** — comprising walking and running, jumping, wrestling, throwing the javelin, tug-of-war, etc. — a number of clubs have been organized in the country, and Swedish sportsmen have successfully taken part in the great International competitions. Annual athletic meetings are arranged in many parts of the country. Some purely Swedish exercises in trials of strength and throwing are included in the list of events, such as e. g., the Gottland games of "*Kasta varpa*" and "*Störta stång*", the latter of which is identical with the popular Scotch sport of "tossing the caber".

Of *ball games* there are several national varieties of great excellence, of which, the principal one — "*Gottland Pärk*" — is the principal and may be placed on an equal footing with English cricket. *Football* has become the most popular game in Sweden and several matches are played every week until the snow covers the ground. *The Swedish Football Union* is the governing body. *Lawn-tennis* has also become a very popular game in Sweden, and many clubs have been formed for its exercise among which the *Royal Tennis Club* has quite a number of good players. Annual matches are arranged by this club.

Bicycling, in Sweden as everywhere else in the civilized world, has become a sport very generally practised, and the Swedish makes of machines sucessfully compete with foreign ones. A number of bicycle clubs exist. Annual matches are arranged, especially road races.

Athletic grounds have been laid out in many places in order to serve as central training places for those taking part in athletic exercises. The "Athletic Park" in Stockholm, in its day a favourite resort of the lovers of sport in the Swedish capital, has now been entirely transformed, the old buildings having been removed and the grounds having become the site of the *Stadion* (Stadium), erected to serve as the scene of the Olympic Games of Stockholm, in 1912, the building expenses of which came to more than one million kronor (about £ 55 000). It is considered to be the most beautiful and most practical Stadium in existence. It seats 20 000 spectators, and under the stands there are corridors leading to the Royal Box, and to the dressing-rooms, bath-rooms, and lavatories for the athletes that are competing or training. The arena includes a football ground, places for all kinds of jumping and throwing competitions, and a first-class running-track. In the winter the grounds are turned into an excellent and much frequented skating-rink. Athletic Parks, or well-arranged athletic grounds, have been laid out at Gothenburg, Norrköping, Sundsvall, Falun, Östersund, Jönköping, Västerås, Visby, Uppsala, Örebro, Malmö, Lund, Landskrona, Hälsingborg, and other places, while several other towns contemplate laying out similar grounds. In the immediate neighbourhood of Stockholm there are several excellent athletic grounds, such as those at Råsunda, Traneberg, Aspudden, and Djursholm.

Game shooting and **Rifle shooting** are two closely related branches of sport. Game shooting has, at all times, been a national sport, pursued everywhere in the country, originally as a profession, now almost exclusively as a sport. The royal elk-hunts at Hunneberg in Västergötland are, perhaps, the principal big-game hunts in Europe; on these occasions some fifty of these stately animals will, at times, bite the dust. *Kungl. Jaktklubben* (The Royal Game Shooting Club) is the chief of the kind in the country. Hundreds of first-class shooting parties are held annually, all over Sweden.

For the promoting of rifle shooting — important from the point of view of national defence — a number of rifle-shooting clubs, enjoying State support, have been organized. These rifle-shooting associations reckon about 170 000 members and receive a State grant of about one million kronor a year. *Svenska jägareförbundet* (The Swedish Hunters' Association), with head-quarters in Stockholm and branches in the provinces, practises rifle shooting from a hunting point of view. Everywhere shooting-matches are held, and the State provides means for the prizes. *Göteborgs skyttegille* (The Gothenburg Shooting Club) has presented a valuable Challenge cup, which is annually competed for by team-shooting. Rifleshooting matches for school-boys are also arranged, among which that held annually in Stockholm has become a kind of national festivity.

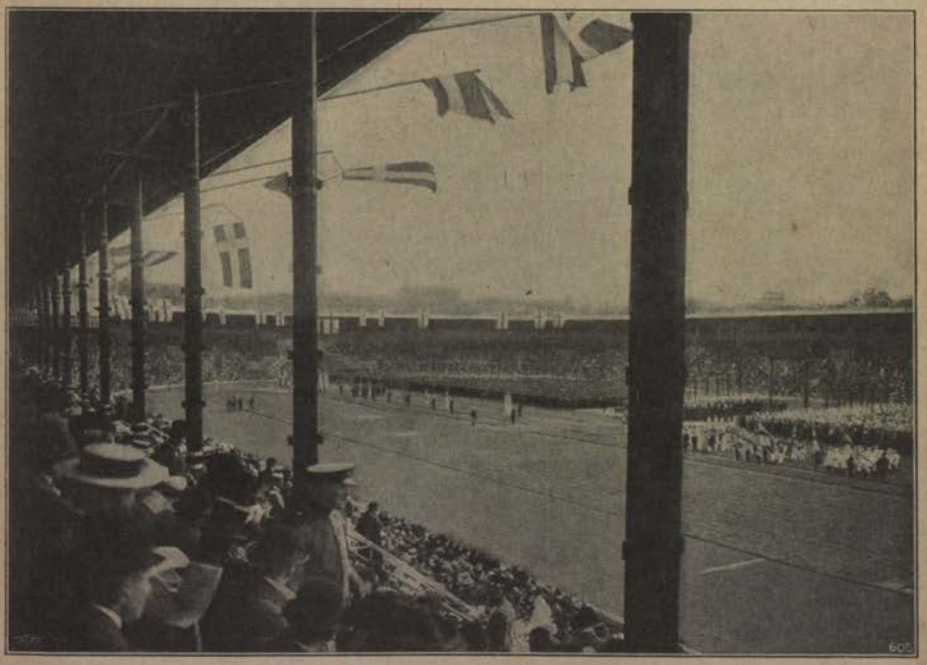
Riding, as a sport, has chiefly been practised by professional riders, i. e., cavalry officers. Of late years, during which a special Racing Club, a Jockey Club, and several Cross-country Clubs have been formed, riding has come to be more generally practised by civilians and ladies, too. Excellent race-courses have been laid out, and races are held annually at many places in the country. Hunt-rides, steeplechases, hurdle-races, despatch rides, trail races, and cross-country riding of different kinds are arranged by the cross-country clubs, and riding has taken a more practical turn in consequence of cross-country riding now receiving as much attention as manège riding, formerly more exclusively practised. Swedish cavalry officers enjoy the reputation of being excellent riders. At the Olympic Games of 1912 they took all the prizes in prize-riding, and the first prize in the "Military", both in the individual and in the team competitions. On the same occasion they gained the first prize in prize-jumping. The Army riding-school at Strömsholm is considered to be one of the best in Europe.

Trotting, too, is practised and is becoming widely spread. Several trotting-clubs exist which arrange trotting-matches, which are, as a rule, held in the winter, on the ice.

There are, thus, many forms of athletics and sport exercised in Sweden, the principal of which have been mentioned above, and there is every reason to say that athletics are rapidly attaining a very high degree of development.

The **motor-car** has almost entirely replaced the former horsed vehicles used as conveyances in the capital, and it has also made its entrance into the Swedish sporting world. The exceedingly severe winter-races arranged every year by *Kungl. Automobilklubben* (The Royal Automobile Club) have attained a great reputation.

Aviation, too, has skilful representatives in Sweden, and the art is making steady progress.



The Stadium, Stockholm.

The Northern Games, which are to purely winter sports what the Olympic Games are to summer athletics, originated in Sweden. Their end is to represent, and to hold competitions in, the numerous branches of sport and athletics that are practised in Scandinavia during the winter. The first Northern Games were held in 1901, in Stockholm. They lasted nine days and were a brilliant sucess. Competitors came from the three Scandinavian countries, and from Austria, England, Finland, Germany, and Holland. The programme included: skating, ski-running, horse-racing over a course covered with deep snow, races between men mounted on skis but drawn by horses or reindeer, trotting on the ice, races between men mounted on "kicking-sledges" and drawn by horses, ice-yachting and skate-sailing, hockey and curling on the ice, sleighing, torch-light processions, trips on an ice-breaker in the Baltic, galarepresentations at the Opera, with Swedish national dances, quartette-singing, etc.

The Northern Games were repeated in 1905, 1909, and 1913. They take place during the second week in February, every fourth year.

The Olympic Games. It was at the Berlin Congress of the International Olympic Committee, in 1909, that Sweden was given the honourable task of arranging the Fifth Olympiad in Stockholm, and all the countries that took part in the Games are unanimously of the opinion that Sweden performed her mission with the greatest success. After having occupied the third place among the nations that competed in the field of athletics and sport at the two Olympic Games immediately preceding that of 1912, — those at Athens (1906) and London (1908), only the U. S. A. and Great Britain being more successful in the Olympiads in question — Sweden, at the Olympic Games in Stockholm, 1912, succeeded in obtaining the first place. This fact shows the enormous development of athletics in this northern land during the last few decades, for the last trial of strength and athletic skill between the assembled nations of the world was the greatest international athletic competition that has ever been held, no less than 27 different nations taking part in this, the Fifth Olympiad. Sweden took no less than 63 prizes, thereby registering 133 points; the U. S. A. gained 129 points, and Great Britain 76, these two nations thus being placed second and third respectively. As a great and lasting memorial of the Games, Stockholm now possesses its above-mentioned magnificent Stadium, erected specially for the occasion.

The Organization of Swedish athletics and sport. During the last few decades Swedish athletics and sport have become more thoroughly organized, a fact to which, in no unessential degree, may be ascribed the successes that Sweden has gained in these branches, especially during the last Olympiads and Northern Games. A somewhat more detailed account of the work of organization in question will be given below.

The various special associations representing those branches of sport that are practised without expensive arrangements and apparatus, are united into one common confederation called *Svenska gymnastik- och idrottsföreningarnas riksförbund* (the Swedish National Gymnastic and Sporting Association). By this means, it has been possible to introduce uniform rules, promote co-operation between the associations, and, by means of one common direction of the whole, support, promote, and direct the athletic life of the country.

The athletic clubs are affiliated both to special associations and also to the respective district associations.

There are thus special associations for athletics, canoeing, cycling, fencing, football, golf, gymnastics, lawn-tennis, rowing, skate-sailing, skating, and swimming, each of which has the independent care of its special branch of sport, and represents its branch in all dealings with abroad, but co-operates with the Board of the National Association.

In order to encourage the exercise of athletics in general and, more especially, the keeping up of these pursuits during manhood, the National Association has issued an "*Athletic Badge*", which can be awarded to every sportsman who is a Swedish subject, belongs to some club affiliated to the National Association, and who has merited the distinction in accordance with the conditions mentioned below.

There are three distinct badges: bronze, silver, and gold.

The bronze badge is granted to every athlete who, during the course of one and the same calendar year, passes one test in each group of exercises. The sportman who, during each and every one of four years (whether in succession

or not) passes one test in each group, is entitled to the silver badge, while the one who satisfies the same conditions during each of eight years (whether successive or not) is entitled to the gold badge. That athlete, however, who, during the course of the year when he reaches his thirty-second birthday, or at a later date, passes one test in every group, shall also be awarded the gold badge, irrespective of whether he has previously obtained the other badges or not.

V. G. Balck, the Founder of modern Swedish Sport.

The tests shall be carried out at places and times determined by the committee of the proper club, or at matches of which due notice has been given. Every test shall be verified by two judges.

The gaining of a badge of a higher degree nullifies the right of wearing previously gained badges of a lower degree.

The tests which must be passed in order to gain the athletic badge are divided into the following five groups:

Group I. Swimming 200 meters (swimming-test) or gymnastics.

Group II. High Jump, minimum 135 cm, or long jump, minimum 475 cm

Group III. Running 100 meters, maximum time 13 secs., or running 400 meters, maximum time 65 secs., or running 1 500 meters, maximum time 5 min. 15 secs.

Group IV. Fencing or throwing the discus, minimum 40 meters, or throwing the javelin, minimum 50 meters, or putting the weight, minimum 16 meters.

Group V. Running 10 000 meters, maximum time 50 min., or swimming 1 000 meters, maximum time 28 min., or skating 10 000 meters, maximum time 25 min., or running on skis 20 000 meters cross country, maximum time 2 hrs. 15 min., or cycling (on road) 20 000 meters, maximum time 50 min., or taking part in the final of a league football match or in a match for the Swedish Football Championship.

The first association of importance for the promotion of athletics in Sweden was *Centralföreningen för idrottens främjande* (The Central Association for the Promotion of Athletics). It is true that there were a great number of athletic clubs at an earlier date, but there existed no central, directing body uniting these, while, in addition, these clubs did not possess the economic resources necessary for the arrangement of, or participation in, athletic gatherings of importance, or for representing Sweden at similar meetings abroad. Neither did the clubs possess the necessary means for the laying out of athletic grounds. In order to promote these interests and in order to spread a knowledge of, and awaken a public interest in athletics, the above-mentioned Central Association was founded in the year 1897. As a consequence of the work of the Central Association, the importance of athletics as an educational factor in the development of the nation became more and more acknowledged, and practical athletics gradually began to gain a firm footing in the every-day life of the Swedish people.

The two great athletic organizations, the Central Association and the Swedish National Gymnastic and Sporting Association have agreed so to arrange their spheres of activity that the Central Association is the highest authority as regards the economic direction of Swedish athletics, while the National Association forms the highest court of appeal in questions appertaining to the organization and direction of sport. On all great occasions in the world of athletics, however, such as the Olympic Games, etc., Sweden is represented by both organizations in common.

The work on which the Central Association has chiefly concentrated its efforts has been the encouragement, support, and *establishment of athletic grounds* all over the country. Chiefly by its own resources the Central Association has thus created, and still supports, the principal athletic ground in Sweden, viz., the *Östermalm Athletic Grounds* in Stockholm, which boast three football-pitches, running tracks, and spaces for jumping and throwing exercises, etc., in addition to a first-class lawn-tennis hall with two covered courts and four open-air courts. These grounds have cost about 200 000 kronor (£ 11 000) and were of very great service during the Olympic Games in Stockholm, as they lay quite close to the newly erected Stadium and were reserved as training grounds for the athletes taking part in the Games.

It was as a result of the action of the Central Association, both through its members that belong to the International Olympic Committee and also in consequence of the sanction of the State and the co-operation of the Swedish National Gymnastic and Sporting Association, that Sweden was able to accept the honourable task of arranging the Fifth Olympiad in Stockholm.

The Central Association possesses a fund of about one million and a half of kronor, and the State grants 100 000 kronor yearly for the encouragement of sports in Sweden.

In *the higher secondary schools,* athletics and sport have begun to be embraced with ardour, and now have their place side by side with the obligatory gymnastic exercises, and the *summer and winter athletic school-competitions* that are held every year in Stockholm are attended by a steadily increasing number of young competitors from every part of the country.

At the *universities,* too, athletics and sport are now practised with steadily increasing interest, and university competitions are held every year which have a tendency to become Scandinavian in their scope.

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8. PUBLIC COLLECTIONS AND INSTITUTIONS FOR SCIENCE AND ART. THE PERIODICAL PRESS.

Academies and Learned Societies.

The Swedish Academy was founded by Gustavus III, on March 20, 1786, on the model of the French Academy. Its purpose is "to work for the purity, strength, and ennoblement of the Swedish language". The King is the patron and nominates its members after their election by the Academy itself. The number of the members is eighteen, among whom are three officials, the director (chairman) and the chancellor (vice-chairman), elected every half year, and the secretary, who is permanent and should be resident in Stockholm. The great day of celebration of the Academy is on Dec. 20 (the birthday of Gustavus Adolphus). Its main source of income is the monopoly of the publication of Post- och Inrikes Tidningar. Out of the public funds the Academy annually receives 8 250 kronor, of which 6 000 are intended to go to the support of literary authors. — The Academy annually awards one of the five Nobel prizes (cf. below) and has for this purpose a special Nobel Institute with a library connected.

The Royal Academy of Sciences was founded in 1739 by a private society, among whose members was Karl von Linné (Linnæus). Its present statutes were sanctioned by the Government April 15, 1904 and were amended Dec. 8, 1905. Its object is the promotion first and foremost of mathematics and the natural sciences. The Academy publishes the almanac and the State Calendar, of which it has a monopoly, which constitutes its principal source of income (146 000 kronor in 1912). Out of the public funds, the Academy has an annual subsidy of 14 460 kronor; its own funds (not including those merely administered by the Academy) amount to a capital sum of 1 442 811 kronor. The Academy consits of at most 100 Swedish members distributed among 11 classes, whose respective numbers are given below, and an equal number of foreign members, similarly subdivided, who are all elected by the Academy itself.

The eleven classes as follows for pure mathematics, 6 members; for applied mathematics and astronomy, 6 members; for physical science and meteorology,

10; for chemistry, 10; geology, mineralogy, and physical geography, 8; for botany 9; for zoology, 9; for medical sciences, 14; for technical sciences, 8; economical, statistical, and social sciences, 6; for other sciences and learned professions in general, 14 members.

The chairman of the Academy, called "Præses", is elected annually by the members. The scientific officials are: a secretary; an astronomer, who is also director of the Observatory; a physicist; a director of the botanical gardens (the Bergian Gardens so called on account of the donation made by Berg); and a librarian. Under the supervision and care of the Academy are the *National Museum of Natural History* (cf. below), the *State Central Meteorological Office,* which has an annual grant of 27 863 kronor, and the Nobel Institute for physical chemistry. — The Academy awards two of the Nobel prizes (cf. below).

The Royal Academy of Literature, History, and Antiquities was founded by Gustavus III in 1786, simultaneously with the Swedish Academy. Strictly speaking, the Academy in its new shape was not an entirely new creation, when it united itself with and took up the traditions of the Academy of Literature, founded in 1753 by Queen Lovisa Ulrika, mother of Gustav III. After Lovisa Ulrika's death in 1782, this Academy had suspended its activities, though it had never been actually dissolved. The new Academy of Literature, History, and Antiquities was allowed to reckon its existence from the date when the old one was founded, namely March 20th, and all the members of the latter who were still living immediately inscribed themselves in the newly founded Academy. According to the statutes now in force, which were issued on Oct. 17, 1890 and amended in a few points on Dec. 10, 1909, the object of the Academy is to promote the study of history, archeology, and numismatics, to exercise the most careful supervision over the archeological remains in the country and the national collections entrusted to its care, and to inspect designs for medals and for public inscriptions.

The Academy is composed of a maximum number of 10 honorary members, 25 active members, 20 foreign members at most, and correspondents to an indefinite number, all of whom are elected by the Academy. The officials are the secretary, who is also State Antiquary, and four antiquaries. The State subvention of the Academy was 90 400 kronor in 1913, while the funds were 820 000 kronor in 1912, mostly accruing from donations.

The Royal Academy of Agriculture was founded on Dec. 26, 1811. According to statutes of Oct. 4, 1907, now in force, its purpose is to apply science and experience to the development and betterment of agriculture and the industries allied to it. The Academy is composed of a president, a vice-president, and 24 honorary members appointed by the Government after being first proposed by the Academy; 150 active and at most 75 foreign members, elected by the Academy. The active members are placed in six divisions, viz.: the agricultural, with 75 members; the scientific

division, 30; the forest and horticultural division, with 15; the economic and sloyd division, with 10; the mechanical division, with 10; and the statistical division, with 10 members.

In each division one of the members is chairman. These chairmen, together with the Præses, the Vice-Præses, and the Secretary form the administrative committee of the Academy. Its officials are the Secretary, Treasurer, Notary, Librarian, and Director of Horticulture. The Academy, which had funds amounting in 1912 to about 414 000 kronor and 227 400 in bequests, has, besides, an annual grant of 12 500 kronor.

The Academy has at its disposal a piece of land just outside Stockholm at Albano used as a *field for experiments* of the Central Establishments for Agricultural Experiments, and here also are situated the Academy's Agriculture and Fisheries Museum and a garden, with a horticultural school connected with it (cf. Agricultural Experimental Institutions, p. II, 147).

The Royal Academy of Arts was founded on March 21, 1735, by K. G. Tessin. By the statutes of June 13, 1908, now in force, its chief purpose is to promote in Sweden the development of painting, sculpture, and building construction, and the allied arts. The Academy consists of a Chancellor, if one is nominated by the Government, of royal honorary members, at most 12 other Swedish honorary members, and Swedish members, at the most 50, besides foreign honorary and other members to an indefinite number, all of whom are elected by the Academy; only artists are eligible for membership. Its officials are the Præses and the Vice-Præses, a Treasurer and a Librarian, elected for a term of three years, and a Secretary, nominated for a year, after which time, on the proposal of the Academy confirmed by Government, he may be nominated to the position indefinitely. Under the supervision of the Academy are *The Royal High School of Arts*, for providing the instruction requisite for the artistic pursuit of painting, sculpture and building construction. The teaching staff consists of 8 professors, one of them being elected as Director for a term of 3 years, and 4 teachers. All instruction is free of charge and open to both sexes. The annual grant to the Academy in 1913 was 101 950 kronor; while it has founds of its own amounting to about 459 000 kronor.

The Royal Military Academy was founded on Nov. 12, 1796. By the statutes of Sept. 16, 1870, now in force, amended May 26, 1899, its object is to advance military sciences, follow their development, and disseminate knowledge in the army and navy. The Academy consists of Swedish and foreign members, the latter to an indefinite number, all of whom are elected by the Academy. The Swedish members are divided into two classes. An officer who, in Swedish service, has the rank of general or admiral can only be elected member of the first class, besides which a member of the second class, who is promoted to the rank of general or admiral, thereby becomes, without election, a member of the first. The members of the second class, the number of whom is limited to 120, are distributed

among six divisions, viz. for the art of war 40 members; for the science of artillery, 24; for the art of fortification, 10; for the science of naval warfare, 20; for the commissariat, transport, and hospital departments, 16; and for the departments of mapping, communication, statistics, and technics, 10.

The Royal Academy of Music was founded by Gustavus III, on Sept. 8, 1771, and, according to statute of May 19, 1911, has as its mission the promotion and protection of the study of music and, among other things, of exercising most careful supervision over the national musical instruction school. — *The Conservatoire of Music.* The number of Swedish members is at most 60 men and 20 women, the foreign members at most 50 men and women, elected by the Academy. Furthermore, the Academy has a right to elect at the most 40 Swedish men and women as associates. The officials are: the President and Vice-President, who are elected for a term of one year at a time; the Secretary; the Treasurer; and the Librarian. At the *Conservatoire,* which is under the supervision of the Academy, instruction is given in all the subjects appertaining to a musical education. The regular State subvention to the Academy in 1913 was 93 635 kronor.

Among **other learned societies** we may here mention *The Swedish Society for Anthropology and Geography,* founded in 1873. It consists of both Swedish and foreign members, honorary members, and corresponding members. The members number about 1 000. On the initiative of this Society, in 1880, the *Vega Fund* was collected, so-called in memory of the first circumnavigation of Europe and Asia. In the beginning of 1913 this fund amounted to about 73 177 kronor, and its annual proceeds are to be used partly for a scholarship, the Vega Stipend, for the promotion of journeys of research in less known regions, and partly for the Vega Medal, to be awarded to persons who, in an eminent manner, have promoted geographical research. Out of the *J. A. Wahlberg Memorial Fund,* founded 1906 and amounting to 32 615 kronor, a travelling scholarship is awarded every 4 years, for research in anthropology and geography in less known countries. The *Hedin Fund,* founded 1909 and amounting to 10 814 kronor in 1912, specially supports research in geography within Sweden. From 1883—1912, the Society has applied 53 280 kronor to the support of travel. It also has the right of awarding from the *J. A. Wahlberg Medal Funds* a gold medal every third or fourth year; and, from the *Anders Retzius Medal Fund,* the society's medal for conspicuous services rendered to anthropology and geography.

Among other learned societies in the *capital,* we may mention: The Royal Association for the Publication of Manuscripts concerning to the History of Scandinavia, The Early Swedish Text Society, The Swedish Archeological Society, The Swedish Historical Society, The Swedish Literary Association, The Caroline Association, The Society of Swedish Physicians, The Society of Swedish Dentists, The Entomological Society, The Geological Society, The Society of National Economy, The Statistical Society, and The Numismatical Society. — In the *provinces* the most important are: The Royal Society of Sciences at Uppsala (Sweden's most ancient scientific association, founded as early as 1710 by Archbishop E. Benzelius the Younger): furthermore, The Royal Association for Literary Science, and the Society for Swedish Literature, at Uppsala; The Royal Physiographical Society and the Society of Human Progress, in Lund; the Royal Society of Science and Literature, in Gothenburg; and the Royal Man-of-war Society, in Karlskrona.

The Nobel Foundation (Nobelstiftelsen).

The Nobel Foundation, established in pursuance of the provisions of the *will of Alfred Nobel,* is one of the most magnificent that any country or any time can show.

Alfred Nobel belonged to a family of inventors and financial magnates. His father, *Emanuel Nobel,* born at Gävle in 1801, the inventor of nitro glycerine and of submarine mines — was an engineering genius of the first rank and exercised a vast activity both in Sweden and in Russia. Two of his sons, *Robert Hjalmar* and *Ludvig Imanuel,* founded the naphtha industry in Baku, one of the greatest and most successful enterprises known to the industrial history of the nineteenth century. A third son, *Alfred Nobel,* who was born in Stockholm in 1833 and died in 1896, was already known throughout the world as the inventor of dynamite, when he made himself famous for all time by the great donation which now bears his name.

According to his will, dated Nov. 27, 1895, Alfred Nobel bequeathed the whole of his fortune (more than 30 million kronor) to a fund, the interest of which shall be annually paid out to those who during the immediately preceding years "have conferred the greatest benefit on mankind". The interest is divided into five equal parts to be allotted as follows: "one part to the person who shall have made the greatest discovery or invention in the domain of **physics**; one part to the person who shall have made the most important **chemical** discovery or improvement; one part to the person who shall have made the most important discovery in the domain of **physiology** or **medicine**; one part to the person who shall have produced in the field of **literature** the most distinguished work of an idealistic tendency; and one part to the person who shall have most or best promoted the **fraternity of nations** and the abolition or diminution of standing armies, and the formation and propagation of peace congresses". The prizes in physics and chemistry are, awarded by the Academy of Sciences in Stockholm; in physiology and medicine, by the Caroline Medico-Surgical Institute in Stockholm; in litterature, by the Swedish Academy in Stockholm; and for the work of peace, by a committee of five persons nominated by the Norwegian Storthing.

The statutes of the Nobel Foundation, as also certain special rules concerning the distribution of the prizes, were laid down by the Government on June 29, 1900, with additions Aug. 12, 1910.

In accordance with these statutes the four above-mentioned institutions, as distributors of the prizes, shall appoint, for two years at a time, fifteen *Delegates,* the Academy of Sciences electing six, the other awarding bodies each electing three. The delegates, who decide all matters connected with the auditing of the accounts, for two years running appoint four members of the *Board* of the Foundation, who shall meet in Stockholm and consist of Swedes; a fifth member, who is Chairman of the Board, is nominated by Government. The Board, which from its members shall elect a Managing Director, administers the funds and other moneys of the foundation, as also other property belonging to the foundation, in so far as it is common to the prize-groups.

For every Swedish prize-group the authorities responsible for distributing the prizes nominate a so-called *Nobel Committee*, consisting of three to five persons, who are to give their opinion anent the bestowal of the prize. The corresponding deliberations upon the bestowal of the peace prize shall be undertaken by the Nobel Committee appointed by the Storthing. To be chosen member of a Swedish Nobel Committee, it is not necessary to be a Swedish subject or to be a member of the body awording the prize. In the Norwegian Committee others than Norwegians may also be members. — Where it is deemed necessary for special reasons, the distributors may appoint an expert to take part as a member in the Committee's deliberations and decisions.

Alfred Nobel.

To assist in the necessary investigations and otherwise to advance the objects of the foundation, the authorities who have to award the prizes may establish scientific institutions and other organizations, which shall be called *Nobel Institutes*. Foreigners, male or female, may be appointed at these Institutes. Should the distributors of the prizes consider it advisable, the Nobel Institutes shall all belong to connected spheres of Knowledge and be similarly organized. Up to now there have been founded a Nobel Institute of the Swedish Academy with a library attached, 1901; one of the Academy of Sciences for Physical Chemistry 1909, and one Norwegian Nobel Institute 1903.

The prizes are distributed annually (for the first time 1901) on the festival day of the Foundation, i. e. December 10 (the anniversary of the testator's death). To become a candidate for one of these prizes, it is necessary to be proposed in writing by a person competent to do so (personal applications are not considered). The right of proposing a candidate for a prize is held both by Swedish and foreign promoters of culture, in accordance with detailed instructions issued by Government. — The proposal of a candidate should be accompanied by those works and other documents upon which it is based. The recipient of a prize, if possible within six months of Dec. 10, shall in Stockholm (as regards the prize for peace, in Christiania) give a public lecture on the work that has gained the prize. — No work shall be awarded a prize, unless by experience or expert examination it be deemed of such pre-eminent importance as is plainly indicated by the will. Should no work under consideration be deemed worthy of the prize, the money shall be held until the following year. What is to be done, if the prize cannot then be awarded, is indicated below. The amount of a prize can be divided between two works. If two or more persons have together produced a work, the prize is divided among them. Every awarding body has a right to decide to what extent the prize under its control may be conferred on institutions or associations.

A the commencement of operations the amount necessary for suitable administration premises was taken, together with 300 000 kronor for each prize-group — involving 1 500 000 kronor — for the expenses of organizing the Nobel Institute. From the annual proceeds of the main fund, a tenth part shall be added to the capital; of the remainder, each group shall dispose of one-fifth. One fourth of this sum will be set aside for the immediate expenses of awarding the prizes and for the Nobel Institutes and the remainder is given to the five Nobel prize takers. The sum will of course vary according to rate of interest, etc. In consequence of the fall in interest the amount given in prizes has, indeed, fallen, so that from 150 782 in 1901, it had fallen to 143 010 in 1913.

If a prize cannot be awarded for two years consecutively (see above), the amount of the prize shall be added to the main fund. Three-fourths of those taking part in the decision may, however, determine that the sum shall instead be set aside as a *special fund* for the prize-group in question. The proceeds of such a fund may be used — *otherwise than as prizes* — to advance those objects ultimately aimed at by the testator.

The following have been awarded Nobel prizes:

In Physics: W. C. Röntgen (1901), H. A. Lorentz and P. Zeeman (1902), H. A. Becquerel, P. Curie and Marie Curie (1903), Lord J. W. S. Rayleigh (1904), Ph. Lenard (1905), J. J. Thomson (1906), A. A. Michelson (1907), G. Lippmann (1908), G. Marconi and F. Braun (1909), J. D. van der Waals (1910), W. Wien (1911), G. Dalén (1912), and H. Kamerlingh Onnes (1913);

In Chemistry: J. H. van't Hoff (1901), E. Fischer (1902), S. A. Arrhenius (1903), Sir William Ramsay (1904), A. von Baeyer (1905), H. Moissan (1906), E. Buchner (1907), E. Rutherford (1908), W. Ostwald (1909), O. Wallach (1910), Marie Curie (1911), V. Grignard and P. Sabatier (1912), and A. Werner (1913);

In Medicine: E. A. von Behring (1901), R. Ross (1902), N. R. Finsen (1903), I. Petrowitj Pawlow (1904), R. Koch (1905), C. Golgi and S. Ramon y Cajal (1906), C. L. A. Laveran (1907), P. Ehrlich and E. Metchnikoff (1908), Th. Kocher (1909), A. Kossel (1910), Allvar Gullstrand (1911), A. Carrel (1912), and Ch. Richet (1913);

In Literature: R. F. A. Sully Prudhomme (1901), Th. Mommsen (1902), Björnstjerne Björnson (1903), F. Mistral and J. Echegaray (1904), H. Sien-

kiewicz (1905), G. Carducci (1906), R. Kipling (1907), R. Eucken (1908), Selma Lagerlöf (1909), Paul Heyse (1910), M. Mæterlinck (1911), Gerhart Hauptmann (1912), and Rabindranath Tagore (1913);

The Peace Prize: H. Dunant and Fr. Passy (1901), E. Ducommun and A. Gobat (1902), Sir William Cremer (1903), L'Institut de droit international (1904), Berta von Suttner (1905), Th. Roosevelt (1906), E. T. Moneta and L. Renault (1907), K. P. Arnoldsson and F. Bajer (1908), A. M. F. Beernaert and P. H. B. d'Estournelles de Constant (1909), Bureau international permanent de la paix, in Bern (1910), T. M. C. Asser and A. H. Fried (1911); no peace prize was awarded in 1912, but, on the other hand, two were given in 1913, viz., to Elihu Root, and H. Lafontaine.

Other more important Foundations for the Promotion of Culture.

Here, we will make brief mention of some of the most important institutions and legacies — of which Sweden has no slight number — in aid of science and culture. In the same connection have been appended a number of donations of greater importance, albeit they cannot be immediately referred to the category of donations with the principal object indicated above. (A brief summary of donations for other purposes is given at the end of this work.)

The Letterstedt Association carries on its work with the support of donations made by *J. Letterstedt* (1796—1862). Its object is to "further the unity of the three Scandinavian Kingdoms as regards industry, science, and art; and to encourage and assist not only professional activity, but also to further the development of science and art in these countries". The activity of the Association dates from 1878 and chiefly consists in publishing the "Nordisk Tidskrift" (Northern Magazine), a periodical in common for the Scandinavian countries. The amount of the available capital of the Association was about 926 670 kronor at the end of 1912; a portion of the interest is to be annually added to the capital until it amounts to a certain sum. These resources are under the *administration* of the Academy of Sciences, which annually places the available interest in the hands of the Association, which, in its turn, assigns sums to the branch associations in Norway and Denmark.

The Längman Donation. *E. J. Längman* (1779—1863), a Finnish tradesman, by his will left $^{59}/_{90}$ of his property to Sweden and $^{31}/_{90}$ to Finland. The amount bequeathed to Sweden is divided into three parts, of which "Litera A" shall be used for the assistance of the needy and for other objects of public utility; "Litera B", for science and art; while "Litera C" shall be applied to improve the Swedish rate of exchange. This last-mentioned fund is, however, not to be used until it has increased to 100 million kronor, and regulations concerning the other two have also prevented their being touched hitherto. The total capital (the share of Sweden) was, at the close of 1912, 3·96 million kronor. The Exchequer administers the fund.

The Renström Fund. *Sven Renström* (1794—1869), a merchant of Gothenburg, bequeathed to that community a fund of one million and a half kronor, of which sum half a million should at once be available for purposes of public benefit, while the remainder should be left out at interest. Every time the interest reaches half a million kronor, this sum may be used for the benefit of the community, though not directly to relieve the municipal rates. Thanks to this fund, Gothenburg has already obtained several public institutions of great utility; moreover, grants have been made for several objects of general advantage to the commuuity. Hitherto, the amounts distributed in 1871, 1878, 1885, 1894, 1903, and 1912, have together reached the sum of over 3 140 000 kronor. The Town Council decides regarding the distribution of the money.

The Lars Hierta Memorial Foundation. This foundation was instituted at Stockholm, in 1877, by Mrs. *Wilhelmina Hierta*, in memory of her late husband, *Lars Hierta* (1801—72), who was a member of the Riksdag and the founder of the Independent and Liberal press in Sweden; it has for its chief aim to bring about and encourage scientific investigations, discoveries, and inventions; to support social improvements; to encourage and impart instruction in handicrafts and trades of general utility; and to advance in every way the sound education of the masses. The foundation, the capital of which now amounts to about 800 000 kronor, annually expends about 34 000 kronor of interest, three-fourths of which sum, according to the regulations, are distributed by the Board, which consists of five to seven members. Twice a year (March and November) the distribution of this money is made by grants to such individuals (men and women) as can promote the aims of the foundation. The Board has also the right of taking the initiative itself. Among the undertakings started by the Board, we may mention: The Hygienic Museum at the Caroline Institute, workshops for children, a cookery-school for girls of the working class, a school kitchen with courses given for teachers, a first school in metal work for elementary scholars, bursaries for the promotion of temperance, bursaries for newspaper men, lady medical students, and dentists, etc. The Board has many times granted travelling expenses for the purpose of obtaining information regarding important institutions or social conditions, such as for instance: to North America in order to study the organization of mixed schools; to England in preparation for establishing "The Charity Organization" in Stockholm, Octavia Hill's system of workmen's dwellings, the school kitchens, etc.; to France and Germany for studies in bacteriology and several social questions, such as the organization of workmen's dwellings, sloyd for girls in schools, provision for the care of working girls in factories, etc. Moreover, the foundation has given encouragement and pecuniary assistance to a vast number of scientific investigations in the various departments of geology, botany, zoology, physics, chemistry, meteorology, astronomy, medicine, and hygiene. See the report issued by the Board of the foundation, covering 25 years of work, published in 1903.

The Röhss Fund of one million kronor was bequeathed to the city of Gothenburg by the merchant, *C. W. Röhss* (1834—1900), from the interest of which 4 % a year shall be set aside for a distribution fund until it amounts to ½ million, when it may be utilized by the Town Council of Gothenburg to promote business, industries, and communication facilities: 510 000 kr. were allotted for these purposes in 1911.

The Ch. F. Lindberg Foundation. *Charles Felix Lindberg* (1840—1909), a business man of Gothenburg, bequeathed to that city his fortune, approaching 2·2 million kronor, from the proceeds of which, after the payment of certain annuities, one-tenth is to be laid by as capital, until it reaches 3 million kronor. The Town Council of Gothenburg may use the proceeds three years from his death, and thereafter every third year, in the first place for beautifying and adorning the city by laying out squares or erecting statues and works of art, and so forth. When distribution for these purposes has been made, the Council may in certain cases apply the resources to other purposes of public utility, similarly to the regulations of the Renström fund; the first distribution (of 196 000 kronor) was made in 1913.

Karl Robert Forsgren (1838—1901), a partner in the wine business of *Forsgren & Wilcken*, bequeathed to the city of Stockholm, by his will dated May 16, 1899, a large part of the fortune he left, to be administered by the Town Council, under the title of the *Forsgrén Fund;* it must not be allowed to fall below 2 million kronor. The interest earned during five consecutive years shall,

at the end of every such period, be applied to some purpose of general utility in the district of Stockholm, such as the furtherance of business and the facilitation of the commerce, charitable institutions of all kinds, laying out and beautifying public places, erection of buildings especially needed in the public interest, etc. In 1908 the Town Council allotted to the High School of Commerce Association in Stockholm 475 000 kronor, as a contribution towards erecting a Commercial High School, and in 1913, to the Stockholm section of the Swedish Cancer Association, a sum of 500 000 kronor as a contribution to the foundation in Stockholm of a permanent nursing-home for cancer patients.

The Educational Bequest of H. T. Cedergren, Telephone Director. *Henrik T. Cedergren* (1853—1909), engineer, founder and managing director of the General Telephone Company (allmänna telefonaktiebolag) Stockholm, in conjunction with his wife *Ida Cedergren*, née *Pegelow*, by will established a "fund for providing opportunities for the good education of destitute children — especial those from the elementary schools of Stockholm, — who cannot in any other way obtain aid for their education, who show great ability, and of whom their teachers have exceptional hopes that, if they acquire satisfactory training, they will be able to make considerable contributions to the economic and intellectual development of Sweden".

The resources of the fund instituted by this will (value of the estate) amount to a round sum of 5 100 000 kronor.

The first distribution from the bequest (amounting altogether to about 40 000 kronor), took place on Dec. 21, 1911, by which support was awarded to studies of all kinds and the recipients were 25 male and 19 female. Another distribution was made on june 6, 1913, when support amounting to 60 000 kronor was allotted to 32 male and 27 female applicants.

The Sunnerdahl Foundation for Boarding schools in the Country. Miss *Magna Sunnerdahl* bequeathed, on Nov. 7, 1908, four million kronor, in accordance with the wish expressed by her father, *Emil Sunnerdahl* 1826—1908, merchant, before his death to be used for providing boarding schools in the country where, boys and girls less fortunate, especially from elementary schools situated in the large cities of Sweden, may gratuitously enjoy the advantages of a country home during their physical and moral development, under favourable surroundings, and may acquire knowledge and training in various departments of farming and gardening, and in other suitable work of a practical nature, side by side with such instruction in theory as may promote their general upbringing as good citizens.

For this foundation the main regulations were established by Government on Dec. 11 1908. It is under the guidance of a director appointed by Government, who has the charge of all the affairs of the boarding-schools. The property of Säbyholm, on Lake Mälaren was bought for the foundation in 1909, and four pupils houses were there erected, which in 1913 accommodated 60 scholars, with schoolhouse, workshop, washhouse etc.

As pupils, chiefly those boys and girls are received who have completed their elementary school course; their period of training is calculated to cover four years at most. Instruction is given in farming, gardening, sloyd in wood and metal, and separate training for girls in household management, sewing, etc. The official staff consists of a head master, a subject-instructor, a teacher of farming, and another in the workshop, a governess, and four lady superintendents, whose duty it is to care for and supervise the various homes.

The Memorial Foundation of James F. Dickson was established by the will of his widow, *Blanche Dickson* (1852—1906), as a memorial to her departed husband, *James Frederick Dickson*, (1844—98), Royal Equerry and it consists of a capital sum of a million kronor, administered by the Town Council of

Gothenburg. The proceeds, — after deducting certain annuities — shall be applied to the establishment and maintenance of convalescent homes for the destitute, especially taken from the working-classes and belonging to the town of Gothenburg, or Göteborg och Bohus Län, or Halland Län.

Archives.

The National Record Office is now the central public archives authority in Sweden. It was originally the record office of the various Government Departments; and it is so still, but there have been incorporated with it, among others, the archives of the old Estates of the Realm (excepting those of the Nobles), the older portions of the archives of old boards or offices (in some cases down to 1850 or even later), such as the Svea Court of Appeal (Svea Hofrätt), the Board of Trade, the Board of Mines (Bergskollegium), the Exchequer; and many private collections of archives have been included. There is a director-in-chief, the "riksarkivarie", who has the right to inspect the archives of the Central Boards, of the County Governments, of the Cathedral Chapters, etc. The Record Office is divided into four departments, each under a First Recorder, and it is issuing a series of important edited records.

Documents connected with the *foreign policies* of Sweden have, until recently, been preserved at the Record Office, only when they dated from 1813 or earlier. Now the Department for Foreign Affairs has transferred to it its documents down to 1860, though not yet the complete collection.

Subordinate to the Record Office is the *Provincial Archives Organization*. Four provincial archives offices had been established down to 1912, and one for Norrland is under contemplation. In the provincial archives offices are collected and preserved the older papers and documents (generally such as date back a hundred years, but not seldom more recent ones) taken from the archives of certain local authorities, such as the County Governments, District Courts, Townships, Parishes, etc. Some towns and parishes have, however, on certain conditions, been excluded from the arrangement. Every provincial archives office is under a provincial recorder, and the provincial recorders have begun the inspection of the minor local archives within their respective districts. The four provincial archives offices are situated at Uppsala, Vadstena, Lund, and Gothenburg.

The Central Boards have their own archives, but, as has been mentioned, some of them have handed over their older documents to the Record Office. Of the others, the most important is that of the *Kammarkollegium* (old Treasury). It dates from the time of Gustavus I, and contains documents and Exchequer Rolls dealing with matters of taxation and other cameral business which is of great importance for the history of internal administration and of culture in Sweden. The *Military Archives* contain collections of documents dealing with the land-defences of the country, hand-drawn and printed maps, marching routes, fortress-, siege-, and battle-

plans; and the *Naval Archives* contain collections of documents dealing with naval defence and naval warfare.

In the provinces, the *Cathedral Chapters* possess valuable and sometimes ancient archives (those belonging to Uppsala, Gothenburg, and Lund are to a large extent deposited in the respective provincial archives offices). *Göta Court of Appeal* (Göta Hofrätt) possesses a considerable collection of archives at Jönköping.

Both the *Royal Library* and the *University Libraries* at Uppsala and Lund have charge of important collections of manuscripts, as have also certain *Public School Libraries.* — Besides these, there exist several *private collections of manuscripts,* the largest of which is that of Eriksberg, in Södermanland, belonging to Baron Bonde.

Museums.

A) **Art Museums.** The most important art museum of Sweden, the *National Museum* in Stockholm, may be said to have been received its first impulse from that lover of art, King Gustavus III (1771—92). The Museum consists of three principal sections: a) sculpture and painting; b) drawings and engravings; c) products of industrial art.

The collection of paintings contained 6 700 specimens in round numbers at the end of 1912, including miniatures. The sculpture collection with Egyptian and Graeco-Roman antiquities, at the same time contained 4 100 specimens; the collection of drawings and engravings, 140 200; and the industrial art collection (of ceramic objects, glass, furniture, metal-work, ivory-work, weaving etc.) embraced 13 000 specimens. The total number of visitors in the year amounts to about 200 000.

Among the museums in the provinces, the Art Section of the *Gothenburg Museum* is the most important, and its collection of modern Swedish paintings is one of the best in Scandinavia. The museum has 684 paintings in oils, water-colours, and pastel, and 212 pieces of sculpture. Its section for objects illustrating the progress of culture embraces over 7 700 objects of ceramic, glass and enamel work, furniture, metal-, wood-, and textile work. Among the other art museums in the provinces, those of Norrköping and at the two universities, Uppsala and Lund, are the most important. It may also be mentioned here that Gripsholm Castle on Lake Mälaren (in the possession of the Crown) contains one of the largest portrait collections in the world.

B) **Historical Museums.** The *National Historical Museum* is one of the oldest of its kind, and with respect to the wealth and variety of the exhibits and their scientific arrangement one of the most prominent in Europe. The collections, which principally embrace objects from the three prehistoric periods — the stone age, the bronze age, and the iron age — as well as from the Middle Ages and later times, are arranged chronologically, and, as far as possible, geographically, within each of

the periods of civilization mentioned. In close connection with this museum is the *Royal Coin Cabinet*, which contains a very rich collection of Swedish and foreign coins and medals.

The Royal Armoury (Livrustkammaren). This collection contains nearly 5 800 exhibits, consisting partly of burnished weapons and fire-arms, and partly of armour and garments which have belonged to the royal personages of Sweden, from the time of Charles IX to our own day; embroidered saddles and caparisons, and state coaches from the seventeenth and eighteenth centuries.

National Museum Stockholm.

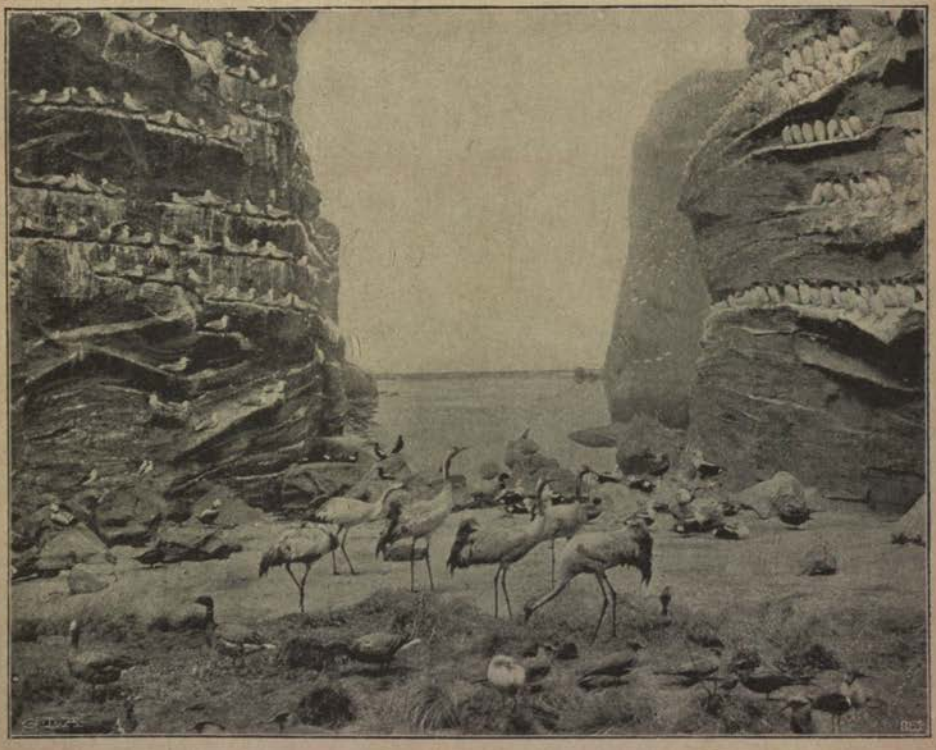
The Artillery Museum at present contains more than 4 000 exhibits, consisting of field and fortification pieces, models of artillery-material, and artillery ammunition, regimental trophies, and an almost complete collection of the small fire-arms of the Swedish army, weapons, and accoutrements (uniforms etc.) from the end of the seventeenth century up to our own day.

The Museum of Musical History, containing instruments from earlier times (about 500 specimens), autographs and portraits of musicians and dramatic artists, etc. *The Postal Museum*, comprising a historical collection of old effects, uniforms, and other paraphernalia of the Post Office, a stamp collection, library, and archives.

Among the historical museums in the provinces may be mentioned the Museum for Scandinavian Antiquities, the Collection of Coins, and the

Victoria Museum for Egyptian Antiquities, — all in Uppsala; the Historical Museum and that of the History of Culture, both in Lund; and the historical section of the Gothenburg Museum.

C) **Natural History Museums.** *The National Museum of Natural History,* under the supervision of the Royal Academy of Sciences, is the richest and most important collection of objects of natural history in Sweden. It embraces eight sections at present, each of which is managed by a superintendent with the title of professor.



From the Biological Museum, Stockholm.

These sections are: a) the Zoological section for Vertebrates, which is the oldest, embracing at present over 2 800 stuffed mammals and 19 000 birds, besides amphibia, reptiles, and fishes, preserved in spirits; b) the Entomological section, and c) the division for Lower Vertebrates; the last two sections are doubtless the richest in the world as regards arctic objects; furthermore, d) the Zoopalæontological collection of fossil animals; e) the Botanical section; f) the section for Archegoniates and fossil plants, embracing, more completely than any other museum, plant-fossils from the polar regions, as well as from the coal-bearing strata of Skåne; g) the Mineralogical section, which is considered fully equal to the most renowned mineralogical collections in other European museums; and finally, h) the Ethnographical collection, which embraces 20 000 specimens.

Among the museums of natural history in the provinces, should be mentioned, in the first place, the *Zoological section of the Gothenburg*

Museum, containing large collections from all divisions of the animal kingdom. Special attention may be called to the numerous specimens of native and foreign birds, the whale collection, that of fishes from the province of Bohuslän, and the great collection of sea invertebrates.

Among the natural history collections at the *University of Uppsala*, we may mention the Zoological Museum and the Botanical Museum, whose herbarium of Scandinavian phanerogams is considered the best known. At the *Lund University* there are also considerable natural history collections, such as the Zoological Museum, etc.

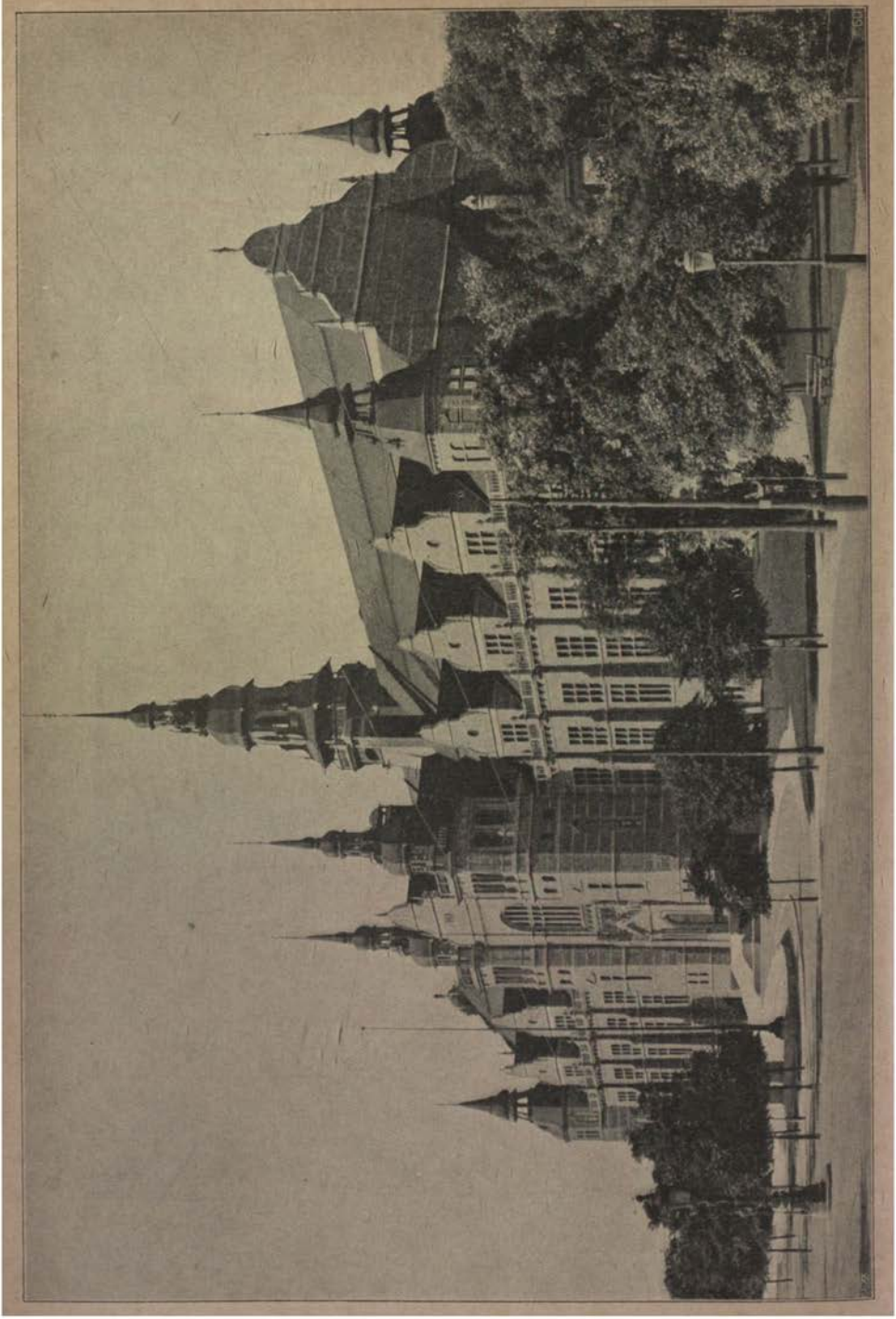
Besides the aforesaid museums, most of the Swedish *secondary schools* possess (for facilitating instruction in the natural sciences) herbaria, collections of stuffed animals, minerals, and other natural objects, some of which are quite important.

A *private* natural history museum of rather great interest is the *Biological Museum* of Stockholm, founded in 1893. This institution, which in its special line has, perhaps, no counterpart in Europe or elsewhere, contains an almost complete collection of the mammals and birds of Scandinavia, with about 3 000 stuffed specimens, and, by a panoptic combination of forest, mountain, and sea, it shows each kind of animal in its natural surroundings. This museum has been arranged by G. Kolthoff, the taxidermist, assisted by Docent K. Bovallius and B. Liljefors the animal-painter.

Northern Museum and Skansen.

Self-knowledge presupposes, in nation as well as individuals, a certain degree of maturity, and the sciences known as ethnology, folklore, history of civilization, etc, are young in comparison with others, and have in many places, in certain respects also in Sweden, not yet received the attention due to them. But thanks to the energetic efforts of a private person, *Artur Hazelius*, Sweden has assumed one of the first places among nations, in preserving objects illustrating the general development of her own people and in this connection also of neighbouring peoples.

In 1872, Hazelius commenced his work in the direction indicated, and in the very next year he found himself able to open the first section of his museum to the public, although at that time he could not even himself foresee the greatness destined for this museum. The museum was then called the *Scandinavian Ethnographial Collection* and was almost of a purely ethnographical and folkloristic character. Soon however, the field of work widened, and the name was changed into *Nordiska Museet*, the **Northern Museum** under which title the institution has since become world-renowned. At the present moment of writing, the general catalogue of the Museum exhibits 122 000 examples, many of which embrace several — sometimes as many as a hundred — objects. Besides these, there is the library and the archives, and large collections

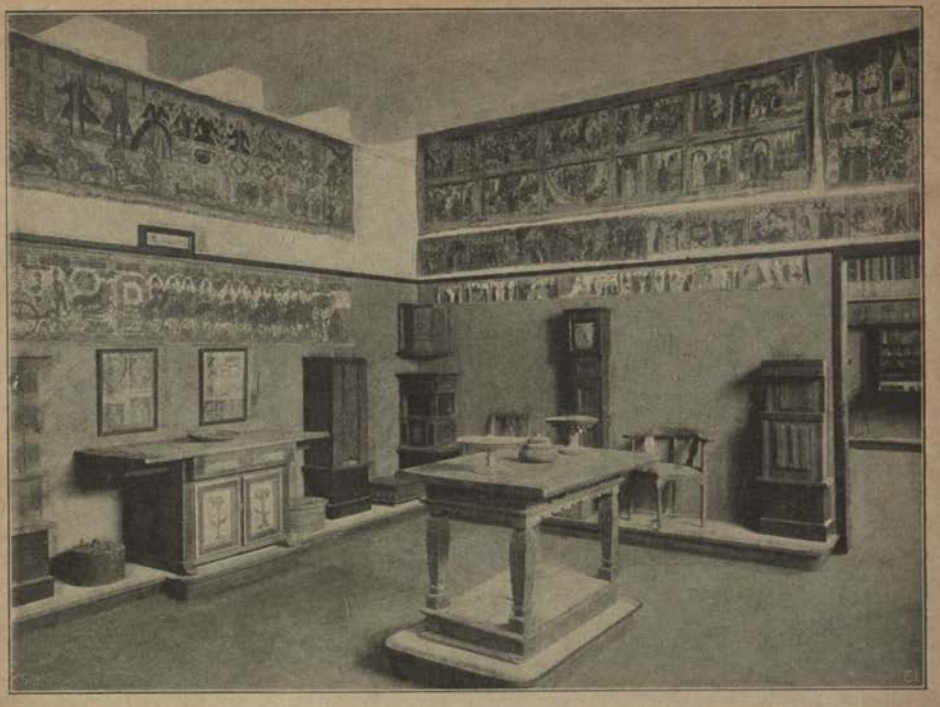


of engravings, portraits (these alone are over 25 000), coins, counters, postage stamps, etc., which collections are not recorded in the general catalogue. The galleries of the museum have been since the summer of 1907 largely accessible to the public in the new buildings on Lejonslätten; at present there are over 100 exhibition rooms. Since 1909 the collections of the Royal Armoury have been placed in the buildings of the Northern Museum. Although it enjoys a State subvention, the Northern Museum is an independent institution with its own Board of Directors, and, next to the indefatigable energy of its founder, it owes its existence chiefly to the patriotic generosity of private persons.

Artur Hazelius.

The Museum contains objects from Sweden, Norway, Denmark, Iceland, Germany; from Swedish, Norwegian, Finnish, and Russian Lappland, and from Finland, the Baltic provinces, and Greenland, which was inhabited by Scandinavians as early as a thousand years ago. Foremost among the different sections of the Museum, should be undoubtedly mentioned the *Scandinavian Ethnographical Section*. In connection with this group, we may mention the *Archeological Section*, which contains treasure-trove not only from Scandinavia, but also from Lappland, Greenland, and some even from Finland.

Next to the collection of peasant-objects ranks, for amplitude and value, the



Interior of a Room, Halland (Skansen).

Section of the Upper Classes[1], which comprises a series of Swedish furnished apartments of varying dates, and a large quantity of objects illustrating the mode of life of the *higher classes* during different periods. This department offers at the same time a splendid opportunity for studying different styles of art, and their development in Sweden. The *Guild Section*[2] of the Museum is very important as providing means of comparison with other lands. There is also a ceramic section containing mostly Swedish, some Danish faiences and Scandinavian earthenware, a collection of glass, one of uniforms and weapons, a naval section, an ecclesiastical section, a section for textile art, one for musical instruments, one for instruments of punishment, one for the fire-service and the police, one for mementos of eminent Swedish men and women, one for objects of Jewish cult, and so on; and the very rich pharmaceutic collection should not be forgotten. These various collections, some of which are comparatively small, have not yet been all exhibited. Most of them, however, are to be accessible, when the basement of the south wing can be thrown open to the public.

Not content with having founded the museum above described in outline, Hazelius began in 1891 (close to the spot where the new building of the Northern Museum was in course of erection) to lay out an *Open-air Museum* which forms a kind of annex to the former, but has a distinct character of its own *epoch-making* in its line. For the main museum he had already procured complete interiors of peasant-homes, and these — by showing the ethnographical objects in their natural every-day surroundings

[1] Högre ståndsavdelning. — [2] Skråavdelning.

— proved for the public to be the most instructive of the entire motley contents of the Museum. Thus the thought arose in the mind of the founder, of incorporating with the Museum entire buildings together with their equipment; and it was to solve this problem that the open-air museum, which bears the name of **Skansen,** was founded in the year mentioned. But besides this object, several other advantages were gained, among them a suitable place for exhibiting such objects as it was difficult to house within the walls of an ordinary museum. Yet even this was not enough. The open-air museum became a place where living pictures from the nature and folk-life of the Scandinavian North could be exhibited. A uniquely planned zoological garden of the North and, to a certain extent, a botanical garden, although entirely unrestricted, have been laid out in Skansen, and on certain occasions every year, national-festivals are got up there, which give the public an opportunity to become acquainted through actual and living object-lessons, with the Swedish people in times past and present.

Of the manifold attractions of Skansen, we may here mention some particular ones. Among the objects exhibited, special attention should be called to the **peasant-cottages** and other buildings, which have been moved to Skansen from different places, and which not only by their furniture and fittings, but also

View from Skansen.

Lapps in Skansen.

by their immediate surroundings, present the most faithful pictures possible from the provinces where they originate; and at the same time, seen as a whole, show the principal features in the history of Swedish peasant dwellings. Besides a whole Lapplanders' camp, with Lapps, dogs, and a reindeer-yard, we find here the very primitive Swedish charcoal-burner's hut, and even the unique "Slogboden" (shed for hay-makers at the forest-marshes), the primitive hillside hut, half embedded in the ground; the mountain dairy, with all the very primitive buildings appertaining thereto; the more developed peasant's house from Dalarne (Dalecarlia), and the modest log-cabin from Västergötland; a whole farm with all its adjacent outhouses with a mill from Halland, and a similar farm enclosing a barton from Skåne, with large quantities of indoor and outdoor effects; a smithy from the ancient "Iron country"; the peasant homes from Blekinge and Hälsingland testifying of oldworld opulence, and the rich miner's home (Laxbrostugan) from the Västmanland mining-district. We also find very picturesque *belfries* from Jämtland and Östergötland, and a storehouse, "fatbur", from a gentleman's country seat in the latter province in the fifteenth century (a copy), and several other farm buildings, such as a granary from Dalarne, a provision-house from Småland, a mill from Västergötland, etc. In the above mentioned large storehouse there is preserved a very interesting collection of old agricultural implements, and not far off we see ancient vehicles and boats besides. — Among the arrangements for the zoological collections, the polar bear grotto and the eagle-cage deserve special notice. — The open-air museum of Skansen, situated on a spot especially favoured by nature, and rich in varying and striking views, has become a very popular promenade, and is beautified by many expensive plantations.

During the quinquenniums of 1876—80 to 1896—1900 the Northern Museum

(the indoor sections) has *been visited* by 107 468, 107 203, 90 591, 121 482, and 135 265 persons respectively; during the five years 1907—11 (the Museum was opened on Lejonslätten in the first of these years) the total of visitors rose to 331 988. In the same time Skansen was visited by 3 512 426 persons. In both departments together, from the start to 1912 inclusive, 11 699 400 visits have been paid.

Besides its leading rôle the Northern Museum has played in museum organization it has exerted a profound influence also in other respects; thus, it has conduced doubtless more than anything else to awaken to life Swedish national taste.

Libraries.

The national library of Sweden, the **Royal National Library** (Kungl. Biblioteket), dates from time of King Gustavus Vasa (1523—60). As early as 1661 it was enacted that the Royal Library should have a copy of every publication printed in the Kingdom. This law is also embodied in the press-law now in force. During the period 1871—77 a special building was erected for the Royal Library in the Humlegården Park, in Stockholm, at a cost of 900 000 kronor. The Library possessed, at the beginning of 1913, about 400 000 volumes and about 1 000 000 pamphlets, loose sheets, plates and maps, kept in 12 150 portfolios. The manuscript section contains about 11 000 manuscripts. The annual increase amounted in 1912 to 55 264 volumes and pamphlets. In the year 1912 the number of books used amounted to 93 330. The number of volumes lent out amounted to 15 458. Since 1887 the Royal Library has published annually a *Catalogue of Additions* of the foreign literature acquired during the previous year by the public libraries of Sweden; the number of libraries covered by this in 1912 was 42.

In Stockholm there is a large number of **Special Libraries,** among which we might mention: a) The *Library of the Royal Academy of Sciences,* embracing natural science, astronomy, and mathematics. The number of volumes in this library amounted in 1912 to about 100 000, besides 80 000 pamphlets. The Library received in exchange for its own publications those of about 929 learned societies and scientific institutions. — b) The *Library of the Caroline Medico-Surgical Institute,* containing the greatest collection of medical literature in the country, possessed in 1912 40 000 volumes and 15 000 pamphlets. — c) The *Library of the Central Gymnastic Institute* for gymnastics, anatomy, and physiology, has about 6 000 volumes. — d) The *Library of the Royal Academy of Literature, History, and Antiquities,* for archæology, numismatics, and history, contains about 25 000 volumes. — e) The *Library of the Riksdag,* for jurisprudence, political economy and the parliamentary documents of foreign countries, — in all 43 000 volumes. In 1912 the government appointed three experts to consider the possibility of extending this library as a cen-

tral library of literature concerning administrative and kindred matters; the experts conclusions were presented on Nov. 2, 1913, but has not yet been put before the Riksdag. — f) The *Library of the Central Bureau of Statistics*, for statistics and political economy, contains 42 000 volumes. — g) The *Library of Pedagogies*, founded 1884, for the literature of education, contains 35 000, volumes. — h) The *Nobel Library of the Swedish Academy*, founded in 1901 in connection with the Nobel Institute of the Swedish Academy, principally for modern foreign literature and the history of literature possessed in 1912 about 30 000 volumes.

Royal National Library, Stockholm.

Among the provincial libraries, that of *Uppsala University* is the most important. It has been entitled, ever since 1707, to receive a copy of every publication printed in the Kingdom. In 1912 the library had about 400 000 volumes, of which about 15 000 were volumes and packets of manuscripts. In 1912 the number of volumes used by visitors to the reading room amounted to 84 615, of which 6 709 volumes were in manuscript. The number of books lent out amounted to 31 528 volumes. Next to the Library of Uppsala University in size, comes the *Library of Lund University*, which was removed in 1907 to newly erected buildings. Ever since the beginning of the eighteenth century, the library has been entitled to receive a copy of every publication printed in the kingdom. At present the library contains about 200 000 volumes, besides pamphlets, and 4 000 manuscripts. In 1912 the number of volumes used amounted to 53 936; and the number of volumes lent out during the same year was 18 479.

Among other libraries besides those of Stockholm we may mention the *City Library of Gothenburg,* which is the most important and contains 150 000 volumes. In 1900 it was removed to new quarters specially erected for it. The number of books used in 1912 amounted to 17 489 and about 11 764 volumes were lent out. The *City Library of Norrköping* possesses about 50 000 volumes, and its foundation was the collection of books bought from Finspång Palace in 1904, with which the public library, founded by the City Association for Popular Education, was later united. When Carl Swartz, ex-Minister, presented his villa to Norrköping in 1912; rooms were fitted up in it during 1913 for the library, — and finally *The City Library of Malmö,* opened in December 1905, and containing about 13 000 volumes.

At all the *State Secondary Schools* in the Kingdom there are libraries which are also accessible to the public. The most important is the *Library of Linköping* with about 100 000 volumes and 1 900 manuscripts, besides 500 letters on parchment.

Newspapers.

The first newspaper in Sweden appeared in 1645. It is still published, under the name of Post- och Inrikes Tidningar, and is one of the oldest existing newspaper of any country. Since 1791, its publication has been a privilege of the Swedish Academy. This paper is to a certain degree a Government organ, and contains chiefly all official announcements; any commune in Sweden can obtain it on payment of postage only.

In earlier times, it was necessary to obtain an official privilege, issued by the Government, to publish a periodical paper, and all papers were subject to censorship, as were all other printed publications. During the so-called "Period of Liberty", the freedom of the press was, however, established, and it is worthy of note that Sweden was the first country where regulations of this sort were given the character of a fundamental law (1766). Among the four fundamental laws now in force in Sweden, there is a law of 1812 concerning the liberty of the press, which contains detailed instructions as to the right of issuing printed publications, the responsibility for them, and the mode of legal procedure in libel cases; it may be observed that in these cases a *jury* is employed — a legal institution which is not otherwise found in Sweden.

Every person who has not been punished for a serious crime or declared unworthy to plead another's cause before court has the right to issue periodical publications, after having notified the Minister of Justice. Publishers of periodicals are, with respect to responsibility, held to be the authors.

A survey of the development of the periodical literature of Sweden, as well as of the number and manner of publication, at different times, of the political and advertisement organs, and newspapers proper, is given in Table 72.

TABLE 72. *Number of Newspapers and Periodicals published in Sweden.*

Political, news- and advertisement papers:	During the whole period		During the years mentioned below						
	1645—99	1700—99	1800	1830	1850	1880	1890	1900	1910
Appearing once a week	7	66	10	24	45	68	145	118	140
» twice »	1	36	5	17	25	74	76	92	107
» three times »	—	4	5	6	4	27	59	64	71
» four » »	—	1	—	1	—	3	8	18	16
» six » »	—	13	1	6	6	11	22	49	72
» seven » »	—	—	—	—	—	—	5	7	8
» twelve » »	—	—	—	—	—	—	1	2	—
Total	8	120	21	54	80	183	316	350	414
General and Literary Periodicals	1	122	3	3	16	22	33	30	44
Theological and improving »	—	13	—	1	13	25	50	68	100
Other special periodicals	—	88	21	41	61	114	204	285	459
Total	9	343	45	99	170	344	603	733	1 017

Note. According to the statistics given by *B. Lundstedt.*

The majority of the Swedish newspapers represent distinct shades of political opinion and can, on the whole, be grouped according to the political organizations (see above, The Political Parties, p. 207). The leading *Moderate or Conservative* newspapers are: *Stockholms Dagblad* (founded 1824)[1], *Nya Dagligt Allehanda* (Stockholm 1859), Norrköpings Tidningar (1758), Östgöta Correspondenten (Linköping, 1838), *Sydsvenska Dagbladet Snällposten* (Malmö, 1848), Sundsvalls-Posten (1853), Göteborgs Aftonblad (1888), Göteborgs Morgonpost (1896), Halland (Halmstad, 1875), Helsingborgs-Posten (1887), Helsingborgs Dagblad (1884), Skånska Aftonbladet (Malmö, 1880), Lunds Dagblad (1774), Nya Skånska Posten Kristianstads läns tidning (1830), Kalmartidningen Barometern (1841), Smålandsposten (Växjö, 1866), Borås Tidning (1838), Örebro Dagblad (1900), Uppsala (1845), Hernösandsposten (1842). — *Svenska Dagbladet* (1884) can be counted as one of the moderate papers since 1914. — *Svenska Morgonbladet* (1890) works with the moderate papers on Free Church principles. *Aftonbladet* (Stockholm 1830) and *Dagen* (Stockholm 1896) occupy an intermediate position between the Moderates and the Liberals. — Amongst the newspapers that support the liberal party may be mentioned: *Dagens Nyheter* (1864), *Stockholms-Tidningen* (1889), Aftontidningen (1909), *Göteborgs Handels- och Sjöfartstidning* (1832), Göteborgsposten (1858), Karlstadstidningen (1884), Skånska Dagbladet (Malmö, 1888), Bohuslänningen (Uddevalla, 1879), Borås Dagblad (1907, 08), Vestmanlands Läns Tidning (1831), Nerikes Tidningen (Örebro, 1896), Nerikes Allehanda (1843), Uppsala Nya Tidning (1890), Gefle Dagblad (1895), Öresunds Posten (Hälsingborg, 1848), Folkets Tidning (Lund, 1856), Östgöten (Linköping, 1873), Sundsvalls Tidning (1841), Vesternorrlands Allehanda (Härnösand, 1874), Norrbottens Kuriren (Luleå, 1861). — The Social Democratic Party in Sweden has proportionately more newspapers than in most other countries. Among them may be mentioned: *Social-Demokraten* (1885), Arbetet (Malmö, 1887), Ny Tid (Gothenburg, 1892), Skånska Socialdemokraten (Hälsingborg, 1907), Östergötlands Folkblad (Norrköping, 1905), Arbetarebladet (Gävle, 1902), and Nya Samhället (Sundsvall, 1900).

Of the 289 political news- and advertisement papers that appeared in 1914

[1] The papers published in the capital, and a few provincial papers that have a considerable circulation over the whole country, are printed in italics.

with more than one issue a week, 18 were published in Stockholm, and of the 84 daily papers (six or seven issues a week) 12 were published in the capital. In 1850 there was only one daily paper not published in Stockholm, while in 1914 there were 72.

The Swedish press stands at a very high level, and the leading papers provide a great deal of matter, including articles on different cultural questions, contributions to discussions, and illustrations. The treatment of foreign politics is fuller and more thorough than in most other countries. During latter years, the provincial press has developed rapidly on the lines of the Stockholm press. Newspaper reading is very general, and the number of papers is very large in proportion to the population. The mort widely spread newspapers reach a daily circulation of between 100 000 and 150 000 copies; the daily issues of the great papers generally amount to several tens of thousands of copies. The number of country subscribers (the Post Office accepts subscriptions from readers residing in other places than that where a paper is published) is considerable in proportion to the total issues. The subscription rates are low, and the papers depend largely on advertisements for their revenues. Taking into consideration the size of the daily issues, the leading Swedish papers are excellently equipped in the matter of modern machinery, and several produce their own blocks.

Among political periodicals are to be noticed: Svensk tidskrift and Det Nya Sverige (both Conservative organs), Forum (Liberal), and Tiden (Socialist). The following periodicals of a general nature may be mentioned: Hvar 8 Dag, Idun, Svenska Veckojournalen (all weeklies), Ord och Bild, Nordisk Tidskrift, Bonniers Månadshäften.

The followin Trade and Professional Associations may be mentioned: *The Publicists' Club* (*Publicistklubben*), founded in 1874, in Stockholm, with five local branches, appoints representatives to attend the International Journalist Congresses. *The Swedish Newspaper Publishing Association* (*Svenska Tidningsutgivareföreningen*), founded in 1898, watches the economic interests of the different papers. Matters concerning the rates of wages of the work-people, however, are ordered by *The Swedish Printers' Association* (*Svenska Boktryckareföreningen*), of which the majority of newspapers companies owning their own printing plant are members. *The Swedish Journalists' Association* (*Svenska Journalistföreningen*, 1901), an association of members of the newspaper staffs, with a central committee and six provincial branches. Political associations are: *The Conservative Press Association* (*Högerpressens förening*), *The Swedish Liberal Press Association* (*Sveriges vänsterpressförening*), and *The Social-Democratic Press Association* (*Socialdemokratiska pressföreningen*).

The Swedish Telegram Agency (*Svenska telegrambyrån*) founded in 1867 and incorporated in 1893, works in co-operation with the great European Press Agencies and supplies the Swedish press with foreign and home news.

The Swedish Press Agency (*Svenska pressbyrån*) was founded in 1906 and continues the distributing work that the Swedish Telegram Agency carried on between 1899 and 1905. It controls the distribution of Swedish and foreign papers on trains, boats, etc. (sales for 1913 were 17·8 millions of papers).

The S. Gumœlius Advertising Agency (*S. Gumœlii Annonsbyrå*), founded in 1877, incorporated in 1908, and *The Swedish Telegram Agency's Advertising Department* (*Svenska telegrambyråns annonsavdelning*) deal with advertising matters.

"*Bibliography of the periodical literature of Sweden 1645—1899*" ("*Bibliografi över Sveriges Periodiska litteratur 1645—1899*") has been published in three parts by *Dr. Bernhard Lundstedt.*

9. LITERATURE.

The achievements of a people within the spheres of literature and art, as well as that of science, constitute, as it were, the crown and blossom of its intellectual culture. A work which treats of Sweden and its People would be incomplete without a brief account of the subject, although space forbids more than a few brief references.

With regard to literature, the love of nature inherent in the Swedish people, and their lively power of imagination, have found expression in very rich lyric, or, lyric-epic poetry. On the other hand, dramatic literature has, as a rule, been of less importance. The *epochs* of Swedish literature, on the whole, synchronise with corresponding epochs of universal literature or — before the beginning of a more intimate cultural intercourse with the peoples of Southern Europe — still more exactly with different phases of that culture which, for a long period, was largely common to the *Scandinavian* peoples.

In all probability Sweden has had an ancient literature of the same kind as the Icelandic Eddas and the Anglo-Saxon Poem of Beowulf. Many facts point to the last-mentioned epic as having founded on poems of Swedish origin, and inscriptions on stones have proved that at least some of the sagas which form the subjects of the Eddas were known also in Sweden. At the sacrificial festivals in Old Uppsala, according to Adam of Bremen, many songs were sung. The traces of this very ancient literature are, however, very rare and consist principally of short *inscriptions on the runestones.* The number of such stones in Sweden is very abundant; there are about 2 000, half of which are found in Uppland. The oldest among them originate from the sixth century, but most belong to the period of transition between Paganism and Christianity. Some of the inscriptions are executed in alliterative versification and contain extracts from long poems now lost. This is particularly the case with the inscription on the stone called "Rökstenen", in Östergötland, the longest one known in the world, consisting of 750 runes.

Another branch of literature, for which our ancient times are also noted, comprises the *Laws of the Provinces,* which exhibit an original and independent conception of justice. These laws were, to begin with, written in brief metrical sentences, for the purpose of being better remembered, but at times they expanded into actual verses. The laws preserved, however, with inconsiderable exceptions, are plain prose. The oldest of the written laws is "Västgötalagen" (the Västgöta Laws), which date back to the commencement of the thirteenth century.

On the introduction of Christianity and the incorporation of Sweden with the Catholic Church, this pagan literature vanished. Latin became the language of the learned; and religious literature became predominant. It is the age of mysticism and scholasticism. *Saint Bridget* (1303—73), the most eminent Swedish author of the Middle Ages, is the representative of mysticism. Her "Revelations", first written in Swedish and then translated into Latin by her father confessor, are distinguished by glowing fancy and imagery.

At this time the Swedes made acquaintance with the chivalry of Europe. This gave them a taste for the romanticism of the Middle Ages, which was

represented in Sweden by various adaptations and translations of foreign romances.

The purest national poetry of mediaeval times is, however, that which we call *national ballads* (Folkvisor). These songs, of which the majority are the common property of all Scandinavia, have survived on the lips of the people to the present day. National ballads vary considerably in their subject matter. Some of them deal with the warriors of the ancient heroic sagas and their exploits, or of divinities of nature and their relations to man; others, and the most numerous, sing of knights and love. But whatever the subjects may be, the literary style of the songs is epic, sometimes with dramatic traits; conversations and events are rendered in a lively and graphic manner.

G. Stiernhielm.

The Revival of Learning has left only very faint traces in our fifteenth and sixteenth century literature. Only with the Reformation does literature waken into renewed life. In the van of thought during the time of the Reformation went *Olaus Petri* (1493—1552), an unusually nobleminded, independent and courageous man, a personal disciple of Luther. All his writings are marked by powerful genius, and his style bears the stamp of simplicity coupled with erudition and an exceptionally keen insight. Few authors have handled the language as he has, and rarely has it rung out so loud and clear as in his works. But that freedom of research which characterized the early days of the Reformation was stifled after his death, and the religious literature grows more orthodox and dogmatic. At the end of the sixteenth, and in the beginning of the seventeenth century, theology is the main subject of interest, and, with the exception of history, the other studies are neglected. The polite literature of this period is of small value.

During the time of the Thirty Years' War a great change takes place Sweden then comes into contact with the world-wide civilization of Germany

France, and Holland, and with the tendencies of the Renaissance. For the first time poetry becomes an art with patriotic aims, and not merely a handmaid of religion. Yet a continuous strain of religious feeling pervades even the merriest songs. Strong and sparkling humour distinguishes most of the poems of this period, and the national character is clearly discernible under the antique garb. This is particularly the case with *G. Stiernhielm* (1598—1672), the most prominent Swedish author of the seventeenth century. His principal work, entitled "Hercules", depicts under the title of the Greek hero-saga purely Swedish conditions during "The Epoch of greatness" (storhetstiden). Stiernhielm was a man of many-sided endowments; but, like so many other eminent Swedes of ability, he frittered away his powers. Besides poetry, he devoted himself to mathematics, philology, philosophy, and archæology. In consequence of the political importance of the country, the latter science revived and became of especial interest by being enlisted in the service of patriotism. Efforts were made to prove that the ancient history of Sweden could be traced as far back as that of any other nation, or still farther. *O. Rudbeck* (1630—1702), eminent chiefly as a natural philosopher, has given a grand expression to these ideas in his brilliant and learned though fantastic work, entitled "Atland", in which he attempts to prove that Sweden is the oldest civilized country on the face of the earth.

But Sweden's political greatness fell with Charles XII, and the misfortunes of the country during his reign brought all minds down to sober reality. During the so-called "Frihetstiden" (The Period of Liberty), a period of an almost republican constitution, which succeeded the despotism, all energies were devoted to the improvement of the internal conditions of the country. Hence scientific interests were directed principally to utilitarian ends: political economy and the natural sciences predominated. It is the age of Linné and Scheele. Literature also reached an important stage of development. *O. von Dalin* (1708—63), who was the guiding spirit during the early part of the period, calls vividly to mind the contemporary English and French authors: the same attempt to gain a correct and lucid style and the same frigidity. Following Addison's and Steele's example, he issued a weekly periodical The Swedish Argus. The influence of Dryden and Swift can be traced in his political allegories and his poetry. Dalin is pre-eminent partly on account of the development of style which Swedish prose gained through him, partly because he opened the way in Sweden for the ideas of the time of enlightenment. These ideas were still further developed and fixed through Mrs *H. Ch. Nordenflycht* (1718—63), Count *G. F. Creutz* (1731—85), and Count *G. F. Gyllenborg* (1731—1808), who, moreover, specially favoured the French taste.

But *K. M. Bellman* (1740—95), the most original and perhaps the greatest of all Sweden's poets, is entirely national and does not seem to have been much influenced by the ideas and tendencies of his time. Bellman's poetry gives expression to Dionysian joy in the pleasures of life and a melancholy lament at their transitoriness. He has especially an eye for the beauties of nature, and he has depicted the fairness of the scenery around Stockholm as no other poet has. With regard to form too, Bellman is quite original and the virtuosity with which, despite a seeming carelessness, he handles the rime and the meter is unexcelled. His most celebrated work is a collection of epic-lyric songs, entitled "Fredman's Epistlar" (Letters of Fredman) in which he immortalizes some wellknown types of character of the Stockholm of his time. These Bacchanalian revellers are portrayed with a powerful realism that calls to mind the expressive paintings of the Dutch masters, as well as all the graces of the Rococo period. The witchery pervading Bellman's songs depends largely on the music which is almost inseparable from the poem; his poetry is composed for singing, not for

reading. The poet has himself composed tunes for some of his songs otherwise he has generally borrowed the melodies from known ballads and then altered them to suit the words, thus creating a harmonious whole. Even in our own days Bellman's songs are sung with predilection by the people.

Statue of Karl Mikael Bellman. At Hasselbacken Stockholm.

The French influence, which had begun to assert itself during the Period of Liberty, reached its climax during the reign of *Gustavus III* (1746—92), one of the "enlightened" despots of this epoch. Gustavus III was French in his education and inclinations, and during his reign French ideas and French taste were predominant. But to uplift Swedish culture was nevertheless the king's aim, and the poets with whom he surrounded himself most frequently treated patriotic subjects, even if the style showed signs of foreign impulse. Taking the French Academy as a model, the King founded the Swedish Academy and entrusted to its members the task of devoting themselves to rhetoric and poetry, as well as to the cultivation of the language. Gustavus III above all took an interest in the drama, and, jointly with his protégés among the poets, produced several dramas and opera librettos. Chief among these co-workers of the king was *J. H. Kellgren* (1751—95) who, side by side with Gustavus III, is the most typical representative of his period. By his study of French literature Kellgren had gained a strong sense of form, and hence his poetic style is unusually

perfect. Like a true follower of Voltaire, he was a champion of civilization and humanity, and with the sharp weapons of satire he fearlessly combated in his newspaper "Stockholmsposten" all the pronouncements of ignorance, brutality, and superstition. All kinds of prejudice, all egotism, and all abuse of power found in him an enemy ever on the alert. Although Kellgren was French by education, there was nevertheless a Germanic trait in him, which could not be entirely effaced; and especially in his later poetry, a depth of feeling and tender sincerity are evidence that this pre-eminent master mind of his time had finally perceived the hollowness of a onesided intellectual enlightenment.

K. G. af Leopold (1756—1829), the contemporary and rival of Kellgren, was possibly superior to him in genius. Leopold's letters, tales, and odes are more elegant in form than Kellgren's, but lack their warmth of feeling and enthusiasm. In *Anna Maria Lenngren* (1754—1817), the third propagator of the ideas of this epoch, it is difficult to decide which to admire most — her noble heart or her entertaining, and very often quite harmless satire. Her strength lies in delicate and graceful *genre* painting.

In opposition to Voltaire's philosophical ideas, arose a school, represented in France by J. J. Rousseau and in Germany by the "Sturm und Drang" authors. *T. Thorild* (1759—1808) was the representative of this tendency in Sweden; he advocates with enthusiasm the rights of feeling and of nature, and in a powerful, though often exaggerated way points out the limited perspective prevailing in the Franco-classic taste. He also insists on the kinship of the Swedish nation with the English and the German nations, which ought to induce Swedes to take their models from them before all others. Nevertheless, though Thorild was too obscure and paradoxical an exponent, yet he was a critic of genius. On the other hand, he had too little of real poetic talent to be able to vanquish the old school. Likewise was *B. Lidner* (1757—93) a poet of kindred spirit, a personality too weak and too irregular of habit to be able to perform such a task, though possessing unusually ample feeling, and a fertile but unrestrained imagination.

For the space of a few years after the death of Gustavus III, the French academical school ruled supreme over polite literature, and poetry degenerated into abstract formalism without any corresponding feeling in the subject-matter, a circumstance which proves that this tendency of taste had already seen its best days. But there was a crop of gifted poets even during this period, though their individuality and originality could not fully develop or mature under the constraint of the Academy. Such was the case with the two Bishops *F. M. Franzén* (1772—1847) and *J. O. Wallin* (1779—1839). Franzén, a gentle and ardent poetic soul, created a simple, purely idyllic lyric, clear as a crystal spring, innocent as the eyes of a child, and wistfully eager for supernatural purity. Wallin, whose temperament was stronger and more gloomy, is the greatest hymnologist of the country; his principal work is the hymnbook of 1819.

After the revolution of 1809 and the loss of Finland, a new spirit manifests itself in Swedish literature. The Romantic School appears, and a violent struggle commences between it and the Academic tendency. At the head of the Romanticists we find the young *P. D. A. Atterbom* (1790—1855), the founder of an association called "Auroraförbundet" (The Aurora Society), and the most prominent of those poets who published their productions in the "Fosforos" (a periodical symbolizing the new light by its scarlet cover). Atterbom, who received his earliest impulses from the German poets and philosophers, especially from Tieck and Schelling, sought to endow poetry with the vague longing of music, and also something of the meditative speculation of natural philosophy on the essence of things. Although his poetry thus became somewhat obscure, he nevertheless possessed superior poetical gifts, and his dramatic saga "Lyck-

salighetens ö" (The Island of Felicity), inspired by a medieval legend, is one of the most beautiful poetical works created by Romanticism.

Another no less typical representative of the Romantic School (who did not, however, belong to Atterbom's circle) is *E. J. Stagnelius* (1793—1823). Stagnelius is a mystic, whose poetry, permeated and coloured by gnosticism, alternates between ardent sensuality and deep pain at the failings of earthly life. No Swedish poet has created such harmoniously euphonious stanzas as he. Stagnelius attempted all the departments of poetry, even that of the drama, and he chose his subjects from widely different spheres — the world of antiquity, the ancient times of Scandinavia, and ancient Christian legends. Still another representative is *E. Sjöberg* (1794—1828, nom de plume, Vitalis), who was influenced by neo-romanticism, applied its principles independently in his noble, melancholy poems and also with jesting satire combated its exaggerations.

Esaias Tegnér.

Despite these superior poetical powers, the Romantic tendency never really became popular in Sweden. It lacked too much that clearness which the nation likes; and it was not through the New School, but by the side of it, that Swedish literature at this time attained almost classical perfection. The men who gave rise to this flourishing condition were *Esaias Tegnér* (1782—1846) and *E. G. Geijer* (1783—1847). These two, representing different sides of the

Swedish national temperament, are generally considered — together with Runeberg, who appeared somewhat later — as our national poets. In spite of all their individual dissimilarities, they seem so much to belong to each other in the consciousness of the people, that one of them can hardly be mentioned without suggesting the other. They were both natives of the province of Värmland, both were for some time members of "Götiska förbundet" (The Gothic Society), which had made it their task to strengthen patriotism and increase interest in the past ages of the Northern Countries, in order thereby to incite the rising generation to energy and resolute courage. Both were University professors, Geijer at Uppsala, Tegnér at Lund (Tegnér being later made a bishop, for which dignity he was hardly suited); and both wrote poems on subjects from ancient times. But it is only in these exterior traits that they resemble each other. Geijer, who was also a philosopher and a composer, is above all the greatest historian of Sweden. After having associated himself with Romanticism for some time, he changed into the foremost defender of the liberal ideas of his time. His poems, which are not numerous, possess a manly and national ring.

Tegnér, who had greater and more splendid poetical gifts, but a less harmonious nature than Geijer, at first embraced academic ideas. His clear poetic genius had been formed in the school of Voltaire and under the influence of the poetic circle of Gustavus III; but he received yet stronger impulses from ancient Greece and from Schiller, whose strong love of liberty he shared. Many of his best poems and speeches seethe with indignation at the policy of the Holy Alliance and the reaction in Europe. In the poetry of Tegnér there is a blending of Greek and Northern features. In form, it is distinguished especially by a dazzling wealth of metaphor. In general literature Tegnér is known above all by his lyrical epic "Fritiofs Saga", which has been translated by some fifty different hands into no less than eleven foreign languages.

The ideas of the Gothic Society found a more enthusiastic than critical adherent in *P. H. Ling* (1776—1839), the creator of Swedish gymnastics. He strove in his lengthy epics and dramatic poems to imitate in rude strength the ancient heathen bards of Sweden. The poetry of Ling is forgotten, but his system of gymnastics survives.

K. J. L. Almquist (1793—1866) is an exponent of romanticism in a state of dissolution and about to change into radical subjectivism, rebelling against all kinds of authority, be it the state, religion, or morality. He has given expression to his moral scepticism in one of those paradoxes which he loved to scatter around him: "Two things are white: innocence and arsenic." Almqvist is perhaps the most universal of all Swedish authors; he attempted everything: history, pedagogics, lexicography, mathematics, music, and all branches of poetic art. His greatest importance is as a novelist. He has been the delineator of all periods and of all lands, even the most exotic, and his pictures are painted with astonishingly true colouring, both as regards time and place. His motto was, "Thus I paint, because thus it pleases me to paint". Almqvist may be called a romanticist, but he was just as much a realist, a psychologist, and a symbolist half a century before the idea of symbolism arose to conscious recognition. He is the great "magician" in Swedish literature. His chief literary works are the two collections of "Törnrosens Bok" (The Book of the Wild Rose), which includes a large part of his poetry, included in a common framework.

Just before the middle of the nineteenth century, literature entered a period of weakness; it is imitations of Tegnér and romanticism that dominate Swedish letters. Among the poets of that period may be mentioned *K. W. Böttiger* (1807—78), a refined and gentle poetic spirit.

At this time people in Sweden, as in the rest of Europe, began to tire of romanticism. Liberalism, which dates its origin from the July Revolution,

made its entry, and in the later periods of the productivity of Geijer and Almqvist these ideas are already clearly discernible. But the liberal views are cherished especially by some young writers and authors, gathering around *L. J. Hierta* (1801—72), who made an epoch in the history of the Swedish press by his newspaper "Aftonbladet". The authors of this time are generally less theoretical and esthetic than practical in character. Among them may be mentioned *O. P. Sturzen-Becker* (1811—69, nom de plume, "Orvar Odd"), the finest and most brilliant Swedish causeur and publicist, trained in the school of Heine and the French essayists; and *A. Blanche* (1811—68), known by his comedies and novels in the genre of Eugène Sue, and above all by his sketches of Stockholm life. Among the pioneers of liberalism outside of this circle is to be counted *K. V. A. Strandberg* (1818—77, nom de plume, "Talis Qualis"), a lyric poet with an energetic, ringing note, and a distinguished translator. Notable among his translations is one of Byron's "Don Juan". Further them is to be noticed *B. E. Malmström* (1816—65), who, opposing the new romanticism, produced poems born of Swedish manliness and ancient classical studies, which were received with admiration by the young students of that day. Such was also the case with *J. Nybom* (1815—89), whose somewhat bombastic lyrics gave expression to the young students' enthusiasm for liberal tendencies and national elevation after the political storms of 1848. In this connection, also, two poets should be mentioned among the most widely read, viz., *Elias Sehlstedt* (1808—74), who was much admired for his charming songs, and *K. A. Wetterbergh* (1804—89), who wrote (above the signature "Oncle Adam") short highly appreciated *genre* sketches.

The realistic tendencies of the age found expression in the ever-increasing predominance of prose in literature. It was especially the novel, which, from the romantic authors and above all from Almqvist, had attained to a greater development, and which now enters of period of success; but, having before been historical, exotic, or fantastic, it now, in the age of the *bourgeoisie*, comes down to homely, every-day life. *Fredrika Bremer* (1801—65) took her model from those English novelists who paint the home-life of the eighteenth century. Her first production was "Teckningar ur vardagslivet" (Sketches from Everyday Life), characterized by an idealistic, somewhat sentimental tone, not infrequently humorous; but at the end of her life she devoted herself to "tendency" novels. She sought to advance the humanitarian ideas of the time, and especially the emancipation of women, and thereby gained a fame outside Sweden that equalled, if it did not surpass, that of Tegnér. There appeared many other male and female novelists, whose greatest merit it was that they wrote for and about their own countrymen. Their aim was rather moral than esthetic. At the same time that Fredrika Bremer published her novels, *Sofia Margareta von Knorring* (1797—1848) pictured the higher social classes, and *Emilie Flygare-Carlén* (1804—92) gained great celebrity by her Sketches from the fisherpeoples' life in the archipelage of the coast of Bohuslän.

A deep appreciation of his native countrys' nature, and a warm love of the people are distinctive traits of the new and significant tendencies in poetry aroused by *J. L. Runeberg* (1804—77) in Finland. Though belonging to a Swedish family, he was no longer a Swede when he began to gain fame as a poet. Runeberg is a realist in the best meaning of that word, and he has acquired his epic clearness in part from the calm, sad, Slavonic "folksongs", and in part from the harmonious and beautiful world of ancient Greece. In some of his works his intimate knowledge of Goethe, Byron, and Almqvist are clearly discernible. Above all, he loves to portray the nature and people of Finland, as he has done especially in his great epic "Älgskyttarne" (The Elkhunters), which in beauty can be compared with Goethe's "Hermann und Dorothea", if it does not even surpass that work. He is entirely original in his

"Fänrik Ståls sägner" (Tales of Ensign Stål), a collection of songs depicting the war of 1809. The poet here gives us a series of war-pictures, or rather, a gallery of heroic types imbued with idealism, a profound moral view of life, and so deep a patriotic love that both to Finns and Swedes the Tales of Ensign Stål have come to be something more than mere perfect poems, their love for them being inseparably linked to their love of their countries.

Among Finnish authors using the Swedish language should be mentioned also *Z. Topelius* (1818—98), whose gentle lyre is much beloved in Sweden, and whose "Fältskärns berättelser" (The Surgeon's Tales) is the favourite book of young Swedes.

Viktor Rydberg.
Portrait by A. EDELFELT.

Runeberg formed no school, though he has indubitably influenced several prominent idealists since his day. He alone filled the great void in our literature at the middle of the nineteenth century; and when, after 1850, his lyre sounds but rarely, little remains to be said about the poetry of that period. To be sure, *Viktor Rydberg* (1828 – 95) had, by the publication of his novel "Den siste Atenaren" (The Last Athenian), attracted general attention, but it was only gradually that he obtained the position as the intellectual leader in modern Swedish literature which he afterwards attained. During the last fifteen years of his life he was recognized as the foremost among living Swedish authors. Rydberg was long known and admired as a writer on esthetics, mythology, and religious philosophy, and as a champion of a noble humanity and an undogmatic Christianity. It was only late in his career that he appeared as a lyrical poet, but his poems belong to the very jewels in the treasury of Swedish poetry. Cast in a perfect plastic form and stamped with Germanic earnestness, they contain meditations upon the deepest questions of life.

As exponents of idealism are to be mentioned by the side of Rydberg, Count *K. Snoilsky* (1841—1903) and *C. D. af Wirsén* (1842—1912), both lyrical poets with great command of form. Snoilsky, known especially by his exquisitely fashioned sonnets, has reproduced the notes of Rydberg in his patriotic epic-lyrical songs "Svenska bilder" (Pictures from Swedish history). A religious feeling pervades all the poems of Wirsén.

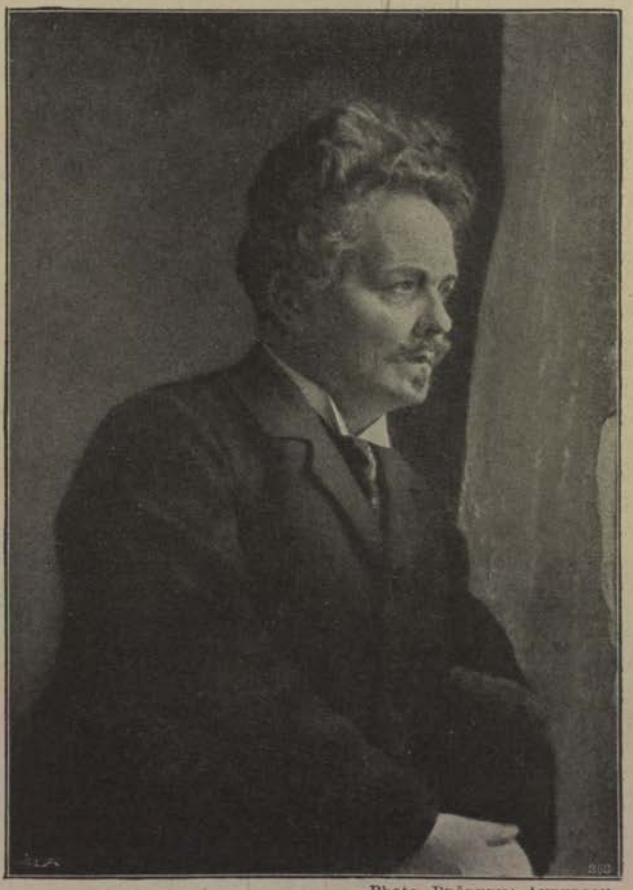


Photo. Bröderna Anderson, Stockholm.

August Strindberg.

At the side of idealism there appeared, from the year 1879, a naturalistic tendency. *August Strindberg* (1849—1912) in his novel "Röda rummet" (The Red Room) impressed upon literature a new stamp, and thereby gave rise to violent literary feud. This realism deviates in more than one way from the realism of contemporary French authors. To Strindberg and to others of his school the form was of but subordinate significance; the main thing was to expose the ideas for which they took up arms. Strindberg published a whole series of brilliant works, such as "Hemsöborna" (The dwellers at Hemsö), a masterly sketch from the island life near Stockholm; the collections of short stories called "Svenska öden och äventyr" (Swedish Vicissitudes and Adventures), and "Giftas" (Married Life), the dramas "Mäster Olof", "Fadern", "Brott och

Brott" (Crime and Crime), and later a great dramatic cycle from Swedish history from the Middle Ages to Gustavus III, and among these especially "Gustavus Vasa". As a dramatist Strindberg stands foremost in Swedish literature. In his later development Strindberg relinquished his radical naturalism in many respects, and embraced mystical views in connection with the religious tenets set forth by Swedenborg in the 18th century. — The life of the peasantry and the middle classes was portrayed in a fresh and good-natured style by one of our most industrious novel-writers, *G. af Geijerstam* (1858–1909), who has also written comedies, the best being those that deal with the people's life. As lyricists two Scanian authors were prominent, *A. U. Bååth* (1853—1912) and *O. Hansson* (born 1860). Two of the most prominent representatives of this literary movement, *Anna Charlotta Leffler*, duchessa di Cajanello (1849—92), and *Viktoria Benedictsson* (1850—88, pseudonym "Ernst Ahlgren"), died young.

Many young poets stood forth in opposition to the realistic school. *V. von Heidenstam* (born 1859) at first fought against the great lack of imagination and joy of life that characterized the prevailing school, and published lyrical poems and romances displaying highly coloured pictures from the variegated life of the Orient full of fancy and the stimulation of life. His later works — as, for instance, the historical cycle of novels, "Karolinerna" (The heroes of Charles XII) — are inspired by love of the nature and history of Sweden. Simultaneously with Heidenstam, *O. Levertin* (1862—1906) also broke with realism. His imagination was fructified by medieval mysticism, and there is something of the pre-raphaelite in his poems, as is the case with contemporary French authors, an esthetic sensualism is mingled with spiritualism. In his latest scientific prose works and short stories his tone is healthier, while at the same time his art is perfected.

One of our most national poets is *G. Fröding* (1860—1911), who, without allegiance to any certain school, paints Värmland scenery and folk-life of his own village with matchless freshness and humour as Burns did that of Scotland. During a poetic career of only a few years he made a contribution to Swedish lyrics perhaps greater than any other writer before him. In masterly handling of rhymes and metres he stands on a level with Bellman.

Selma Lagerlöf (born 1858) stands in the foremost rank of recent Swedish novel-writers. Her novels are distinguished by something of the simplicity and clearness of the classical epic. Her imagination is inexhaustible, her conception in a high degree poetical and soulful, and her psychological intuition of a power rare in Swedish literature. Her works, among which is The Story of Gösta Berling, the first she wrote, are translated into practically all European languages. She has won the Nobel prize for literature. With her may be mentioned also a few other living authoresses, viz.: *Ellen Key* (born 1849), who has aroused attention by her treatment of social problems; *Helena Nyblom* (born 1843, a Dane), who in her mother-tongue has written lyrics, but in Swedish, sketches and sagas; *Alfhild Agrell* (born 1849), dramatist; and the novel-writers *Anna Wahlenberg* (born 1858), *Mathilda Malling* (born 1864), *Sophie Elkan* (born 1853); *Hilma Angered-Strandberg* (born 1855), *Marika Stjernstedt* (born 1875) and *Elin Wägner* (born 1882).

Among the more noted authors of our day may be mentioned also: *A. T. Gellerstedt* (1836—1914), an original miniature painter in words; *K. A. Melin* (born 1849) whose poems deal with the Stockholm Archipelago; *F. Vetterlund* (born 1865), *V. Ekelund* (born 1880), and *A. Österling* (born 1884) are known as authors of the "Skåne-school" (Skåne is a province of South-Sweden); *D. Fallström* (born 1858), lyrical poet; *E. A. Karlfeldt* (born 1864), lyrical poet with warm feeling and rustic humour descriptive of Dalarne; *F. Hedberg* (1828–1908), dramatist, like his son *T. Hedberg* (born 1862); *P. Molin* (1864—96), spirited

Photo. A. Karnell, Gothenburg.

Selma Lagerlöf.

singer of the people and scenery of Norrland; among their successors should be mentioned *W. Hülphers* (born 1871) and *B. Berg* (born 1885); *P. Hallström* (born 1866), distinguished especially as a short-story teller; *Hj. Söderberg* (born 1869), novelist and "causeur"; *K. E. Forsslund* (born 1872), depicter of nature and rural life; *H. von Melsted* (born 1875), writer of "tendency" novels; *K. G. Ossiannilsson* (born 1875) lyric and dramatic poet and novelist; *L. Nordström* (born 1882) and *G. Janson* (1866—1913) novelists. Finally we may refer to a style of writing which has become very popular nowadays, viz., dialect literature. It depicts the peasantry from their own point of view, and partly in their own idiom. Among authors cultivating this style the best known are *F. A. Dahlgren* (1816—95, pseudonym "Fredrek på Rannsätt"), and *A. Bondeson* (1854—1906). Frödings works are also partly written in dialect.

10. FINE ARTS.

A national conception of Architecture and Industrial art early began to show itself in Sweden, but is was not until the 18th century that Sculpture and, more markedly, Painting began to shake off the bonds of the prevailing foreign influence. It is from this time that purely Swedish art derives its impulse. The originality of Swedish Music is, in some departments, incontestable, and vocal music has attained a high degree of perfection.

Architecture.

The Uppsala tumuli, those mighty mounds of earth and stone covering the tombs of Swedish forebears, speak at once of heathen forms and heathen giant strength. Beside them existed even in the 11th century, untouched and in regular use the great idol-temple of Sweden, "built of solid graystone but plated inside with gold". At the same time as Catholic churches were being erected in various districts in Sweden, Västergötland, Mälardalen, and Gottland, sacrifices were being offered to the old idols in the heathen temple on the plain of Uppsala. These churches — like the Uppsala temple — were built in natural stone, a material which was as yet comparatively rarely used, and this is reasonable enough at a date when huge forests admitted of the most substantial buildings in timber, and farmhouses and manors alike were generally constructed of rough wood. Nevertheless, on Gottland, which possessed abundant supplies of limestone and sandstone, the art of building in stone arose fairly early; this was the case even for secular purposes, and farmhouses still survive there which testify to a primitive method of building with a straw roofing and thatch ("ag").

Primitive architecture received a powerful impulse through the erection of monasteries by the Cistercian order in various parts of the country. The church of Varnhem in Västergötland — preserved from one of those foundations — is one of the most beautiful architectural relics in the country. The chief memorial of **Romanesque** art in Sweden is the originally magnificent cathedral in Lund, a construction from the twelfth century, comparable to the Rhenish cathedrals, which displays in its ornamentation considerable influence from Northern Italy.

However, the creations of Swedish mediaeval art are most plentifully to be found in Gottland. A complete monument of this art is the whole city of *Visby*, with its mighty town-wall — still in existence — its streets, its houses, and its many churches, which latter, with one exception, are certainly fallen into ruin but yet are sufficiently preserved to indicate what they were once. These churches, belonging to the eleventh and twelfth centuries, and representing all the phases of mediaeval architecture, except the late Gothic style, are each of interest for their original composition and excellent treatment of the material taken from the abundant resources of the island. The most beautiful specimen is considered to be St. Catherine's (vide illustr.), in the early Gothic style. In its rural districts, Gottland possesses quite a store of churches, in perfect preservation, from the same periods. Unpretentious in size, they excite surprise by their unique construction, their well calculated proportions, and their wealth of characteristic detail. The types are independent varieties of the Romanesque

basilica and of the Gothic hallchurch with columns. The most beautiful churches date from the thirteenth century, and represent a transitional style uniting the imaginativeness and lightness of the Gothic with the soberness of the plastic art of the Romanesque — a style so original and so artistically treated that it is entitled to a name of its own: the **Gottland style.**

Photo. K. Sidenbladh J:r.

Ruins of St. Catherine's Church, Visby.

¶ Among the examples of **Gothic architecture** on the mainland we ought to mention the splendid Cathedral of Linköping — begun during the Romanesque period, but completed as a Gothic hall-church, in the details of which Gottland prototypes have been traced; the Skara Cathedral and the Church of St. Bridget's Nunnery at Vadstena — these, like all the other edifices mentioned above, built of hewn stone. It is true that, occasionally, Romanesque brick churches are found in Skåne, but it was only with the gothic style that — under North German influence — a real brick architecture arose, which in Southern Sweden has left most of its creations, and in the central parts displays less pretentious but more independent forms. A combination of stone and brick architecture is found in the foremost mediaeval building in Sweden, Uppsala Cathedral, a nobly proportioned structure, whose prototype is found in Northern France, with most of its details carried out in hewn stone, but the shell in brick. Many Swedish

mediaeval churches, amongst them specially country churches in Uppland, are adorned with beautiful and painted vaults, characteristic of later mediaeval work.

Of profane mediaeval architecture, Sweden has comparatively few remains; amongst them may be mentioned the so-called Old Pharmacy in Visby, the Castles of Vik in Uppland, and of Glimmingehus in Skåne. These, however, belong to the transition period succeeding to the mediaeval. *Wood architecture,* which preceded that of stone and existed side by side with it, obtained its peculiar stamp from the different styles of log erections. Abundant relics clearly prove that the "stave construction" was largely employed throughout Sweden in the early middle ages. Only very few mediaeval remains of wood buildings have survived to our time; one, however, is the "Ornässtugan" in Dalarne.

The Renaissance, like the preceding mediaeval styles of building, arrived relatively late in Sweden; it does not make its appearance till the second and third decades of the sixteenth century, and is contemporary with the Reformation and the political emancipation effected by Gustavus Vasa. If the Renaissance and the introduction of Protestantism, in general, mark a removal of the architectural centre of gravity from the religious sphere to the profane, this will especially be the case in Sweden, where ecclesiastical property was confiscated to the Crown, so that many a monastic building had to provide the stone material for fortified castles erected by Gustavus Vasa and his sons. These castles, being partly continuations of mediaeval structures, partly completely new buildings, are the characteristic edifices of the Swedish Renaissance. To the former category belongs the Castle of Kalmar — an extensive and picturesque building, among the decorative details of which the well especially is an interesting work of art; also Gripsholm on Lake Mälaren — reconstructed during the Renaissance, and enlarged also during the following centuries; it forms a complex of buildings chiefly of brick, with an exterior extremely simple and bold, but containing rich and picturesque interiors. Foremost among the new-built castles stands the beautiful Vadstena on Lake Vättern. Unfortunately, the old Royal Palace of Stockholm "Tre Kronor" ("Three Crowns") — also of mediaeval origin and perhaps the grandest work of the Swedish Renaissance — was destroyed by fire in 1697.

The earliest Swedish Renaissance received its first impulses chiefly from Germany and Holland; after them a purely Swedish school gradually evolved. Distinctive features of the style are: — externally, a simple effect produced by massiveness and relieved by solitary details, amongst which especially the portals and the high, ornate gables are noticeable: and internally a decorative system, by turns magnificent, and delightfully simple, often produced with the simplest means.

The few churches erected during that period (the end of the sixteenth century) are imitations of the Gothic style.

The *wood architecture* inherited from the Middle Ages was further developed by the Renaissance; it employed boarding and oak shingle for facings and roofs. Quite unique pieces of work are the belfreys of many country churches which betray advanced constructive ability combined with an unaffected and delicate sense of form. The same traditions are traced in sundry churches, e. g. Habo in Västergötland (18th century), further, in many farmhouses, especially in Dalarne, in the "Härbren" or store-sheds peculiar to that province, in the so-called Björkvik Fatbur (store-shed), etc.

The Baroque style has three phases of development in Sweden. The first covers the beginning of the seventeenth century and forms a somewhat modified continuation of the Renaissance. To this epoch — *that of the early baroque* — belong several handsome country-seats, as for instance Tidö, Läckö on Lake Vänern, etc., as well as a number of palaces and houses in towns, which at that time displayed a lively architectural activity. Characteristic of the period, also,

Photo. P. A. Eriksén, Skövde.

Varnhem Church.

is an increased interest in church architecture, resulting not alone in sundry reconstructions and new buildings — amongst which ought to be mentioned the small, richly fitted German Church of Stockholm and the magnificent Church of Kristianstad, erected by Christian IV at a time when that town belonged to Denmark — but also especially in decorative details: portals, monumental tombs,

and fittings, with which old churches were supplied. — A German stamp often marks the architecture of that age, especially in the case of the burghers' houses, which are often architecturally elaborate.

The next period — *that of the later baroque style* — coincides with the Period of Sweden's Political Greatness, during the latter half of the seventeenth century. Castles and palaces — in which the capital and the Mälar provinces now particularly begin to abound — are erected on patterns hitherto unknown, and the previous more serious style merges into one of a lighter character, with impulses chiefly derived from France, Italy and Holland. A grand, imposing design and excellent proportions are traits distinctive of the edifices; but the details are sometimes too negligently treated. The foremost architects of the time are *Jean de la Vallée* (1620—96) and *Nikodemus Tessin, the Elder* (1615—81). The former, amongst other things, completed the House of the Nobility — the building most representative of the time in Stockholm — and erected the City Court Buildings and other buildings in the capital. Amongst the latter's masterpieces should be mentioned the palace of Axel Oxenstierna, the Bank of Sweden, besides other edifices in Stockholm, the main part of the royal palace at Drottningholm, the castle of Borgholm in Öland, still surviving as a magnificent ruin, the mansions of Eriksberg and of Skokloster, the latter carried out in collaboration with de la Vallée, and other larger or smaller country seats, as well as the Cathedral of Kalmar — in these he proves himself a versatile artist, understanding how to give to architectural work, at one time a magnificent or serious monumental character, at another delightfully rustic features. Drottningholm is a luxuriant structure in French taste, but most of Tessin's works are marked by unostentations architecture after Italian models. This style was further developed by his son, *Nikodemus Tessin, the Younger,* (1654—1728), who collaborated in many of the later works of his father, and in this way arose the *last epoch of the Swedish baroque style.* It is contemporary with the European rococo style, but shows a somewhat deviating creative ideas and might be termed the *Tessinesque* or the palace period.

The Royal Palace of Stockholm — a work of Nikodemus Tessin, the Younger — was erected on the site of the old one, "Tre Kronor", after the fire in 1697. The work proceeded during the greater part of the eighteenth century. This monumental edifice has externally more in common with the mid and late Italian Renaissance style, than with contemporary architecture. The simple, but brilliantly grand, design bears the stamp of perfection in every detail and produces a powerful and arresting impression, which is intensified by the building's splendid position. The palace is, indeed, acknowledged to be, not only the first architectural achievement of Sweden, but also one of the foremost in the world. The effects Tessin knew how to bring out in the interior are exemplified by the galleries and vestibules of the palace, among which those of the south wing are especially striking by their fine composition, as well as by his own mansion, with its Italian court-yard. Besides these, he has — in Stockholm as well as in provincial parts — handed down to posterity a great number of imposing works of architecture, amongst which are also to be found churches.

Of the interios of the Royal Palace, several were added after the death of Tessin; he did not live to see the completion of his masterpiece. These and similar parts of the royal country palaces, the delicately designed operahouse of Gustavus III — now pulled down, (the work of *C. F. Adelcrantz,* 1716—96, who also designed the exquisite Norrbro leading to the Royal Palace) — the Stockholm Exchange, by *E. Palmstedt* (1741—1803), and some church interiors, amongst them the magnificent Palace chapel, constitute the chief productions of the latter part of the 18th century in Sweden.

Within the domain of ecclesiastical architecture, the seventeenth and eighteenth centuries in Sweden exhibit the introduction of the "central church type", to which Tessin, the Elder, gave the initiative in Kalmar Cathedral. These periods, moreover, enriched the churches with a number of — often magnificent — sepulchral monuments and mortuary chapels, added to the main building by noble families.

The early part of the **19th Century** shows the impress chiefly of the "Empire style", called in Sweden the "Carl Johan style"; this tendency in architecture may be termed the last word of French influence in the country. The Carolina Rediviva Library in Uppsala furnishes one of the stateliest examples among secular buildings, simply but splendidly planned; and in the same period departing classicism leaves its last traces in Skeppsholm church at Stockholm, by *F. Blom* (1781—1853), whose work there is harmonious and well balanced. After that the thread of tradition was broken, and with the middle of the 19th century arose a forced, straining search for motives from the four corners of the earth: this was connected with industrial conditions, and later more especially with the use concealed of rolled iron girders, and it resulted in the degeneration of architecture from the art of building into the art of decorating.

The most prominent exponent of this decorative style was the versatile and highly gifted artist, *F. V. Scholander* (1816—81), who evidenced a refined sense of proportion and rhythm more especially in the Stockholm Synagogue, which betrays delicate feeling in ornamentation, and an elevated conception of southern forms. The better structures which were produced simultaneously with, or immediately after, his, all received the impress of his work, and were characterized by the same interest in harmonious form, without due importance being attached to the genuineness of the material, which was often imitation, nor to construction which often lacked proper attention. An unhappy manifestation of a tendency which was undesiable is to be found in the restoration of many renowned cathedrals, which was undertaken at about the same time. Here an insufficient acquaintance with mediaeval architecture was fraught with disastrous consequences in the matter of distortion. Genuine specimens from the Middle Ages, which still survived untouched, were reconstructed; and interesting relics of succeeding periods, which rendered the cathedrals eloquent historical records, were done away. Sad examples of this process exist in the cathedrals in Lund, Skara, Uppsala, etc.

This restoration movement brought with it partly a quasi-mediaeval church architecture, and partly an awakening to the proper use of materials, and an approach towards a consideration of the problems of construction.

An imposing proof of this revived feeling for genuine architecture is furnished by the Northern Museum (Nordiska museet), built in Stockholm in the latter years of the 19th century by *I. G. Clason* (b. 1856). Just as the principle of the whole institution was the linking up of Swedish life of to-day with vanished Swedish tradition, so this building utters a word in season, expresses a monumental idea, which combines the ancient energy of the North with modern development. In the perfection of the facades of the Adelsvärd and the von Rosen mansion, the same artist has produced the finest specimens of architecture in private buildings of the 19th century in Stockholm. Clason's forte is recognizable there; a profound and refined knowledge of the Renaissance coupled with a thorough and ardent capacity for *building*.

In opposition to the unity of form at the beginning of the century, called the "Carl Johan style", its end was marked by a restless hankering for past styles of all dates and climes. However various were the motives, the work upon them was nevertheless concentrated on the use of a crowd of different

materials, in the striving after picturesque effects in facades and external decoration. The final blossoming of this decorative style is represented by *Ferdinand Boberg* (b. 1860), in the work of Post-Office and the Rosenbad Hotel, both in Stockholm, and in other instances, who displays originality and an abundance of ornamentation in the facades.

I. G. Clason.

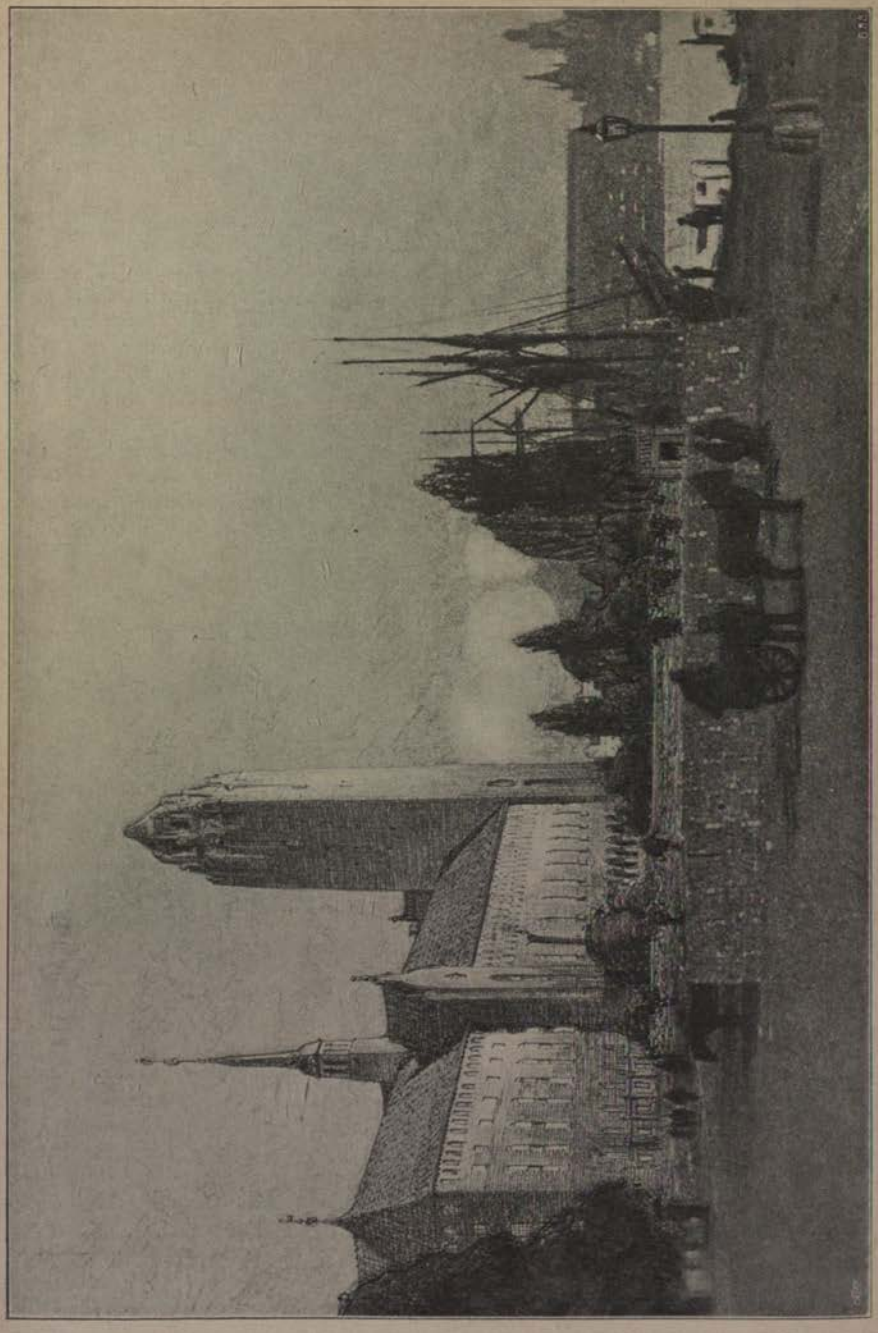
The 20th Century. During the present century there has been a more and more pronounced tendency in Sweden to replace the term "Arkitektur" (Architecture) by "Byggnadskonst" (The Art of Building): and there is good reason to see in this fact a mark of character and not only a change of nomenclature. An effort is noticeable to pass from decoration to constructive effects, from the generally picturesque to what suits the surroundings, and to promote the erection of structures, with their details, suitable for the purpose in view. External effect is subordinated to roominess. The country and its climate make themselves felt than they have done for many a day; and concentrated effort to revive Swedish tradition may be traced on all sides. This tendency was initiated by *I. G. Clason* and has won strong champions in *Carl Westman* (b. 1866) and *Ragnar Östberg* (b. 1866). Both are unusually original, and gifted with artistic powers, and both have understood how to embody the typically Swedish temperament in their efforts, and so a return is made to the Vasa-period, the style dearest to the hearts of Swedes; the first artist inclines more to delicacy in outline, the latter is strong in monumental grandeur. The former has presented a style of construction, substantial, skilful and graceful, in the home of the Medical Society in Stockholm, the assize court in Nyköping, and the Fåhraeus mansion on Lidingö. He has given us a pattern of the new Swedish architecture by providing

Stockholm with a monumental work in the new City Court Buildings (completed 1914). Östberg has proved his serious and unaffected, but withal pleasing, skill in Östermalm School, and the Pauli mansion at Djursholm. In the Stockholm City Hall, now under construction, (see the illustration below) he has concentrated his gifts on his work with such effect that, though still in course of building, it is already hailed with universal enthusiasm. In the same direction, but with an individuality all his own, *Erik Lallerstedt* (b. 1864) is doing good work; he is professor at School of Architecture, and in the erection of dwelling houses, built by the firm of Trygg on Engelbrektsplan (Stockholm), he indicates their possibilities; in the Technical High School in Stockholm, now being built, he exhibits grand monumental design, with erections grouped round enclosed court-yards. *L. I. Wahlman* (b. 1870) is the constructor of Engelbrekt Church in Stockholm, a central church edifice with vigorous grouping. He has been especially active in the revival of the national architecture in timber, but has also produced great mansions in the provinces, e. g. that at Tjolöholm. He has a decided leaning towards the picturesque. *Torben Grut* (b. 1871) is the builder of the Stockholm Stadium, designed upon antique models, transformed with Swedish material into the Scandinavian style, and embracing Swedish features. *Ivar Tengbom* (b. 1878) is building the Enskilda banken in Stockholm, and the Trygger mansion; in the former he evinces the capacity to confer a noble and tasteful stamp on the modern business house, in the latter he endows with distinction the home of the wealthy citizen. Fine specimens of monumental structures, adapted to smaller towns, are furnished in his new chuch at Arvika and the Borough Court Buildings at Borås.

Side by side with the architects, scientific archaeologists have shown devoted much purposeful energy to the of study of ancient architecture, and this is proved, not only by a quantity of publications concerning ancient buildings, but also by latter day restorations, which are now effected with deep respect for the antique; the former name of "restoration" may therefore be exchanged for that of "*preservation*". An important rôle in this province has been performed by *Sigurd Curman* (b. 1879), who has directed a considerable number of restorations in the capacity of both architect and archaeologist.

Besides those previously mentioned, we may here name some living architects and cite some of their better known works: —

A. Anderberg (b. 1860), The Opera House and the Oscar Theatre in Stockholm; S. John's Church, Malmö; National Museum of Natural History, and the complex of the Academy of Sciences at Frescati (Stockholm). *G. Améen* (b. 1864), St. Göran's Chapel in Stockholm: he is the city architect. *C. Bergsten* (b. 1879), Hjorthagen Chapel, The Intima Theatre (Stockholm), bank and school house at Norrköping. *Sigfrid Ericson* (b. 1879), the new Masthugg Church at Gothenburg, the churches at Lyse and several other places in Bohuslän. *G. Hagström* (b. 1865), and *P. Ekman* (b. 1871), a number of luxurious dwelling-houses in Stockholm. *E. Hahr* (b. 1869), the Town Hall in Västerås, and a large number of mansions and private houses in the same town. *H. Hedlund* (b. 1855), the public and town libraries, the new Telegraph Office, the Association of Clerks' premises, and several other buildings in Gothenburg. *P. Hermansson* (b. 1864), the Oscar and Sofia churches in Stockholm. *Aron Johansson* (b. 1860), the Houses of Parliament and the Bank of Sweden on Helgeandsholmen, State Telephone Exchange, and buildings of the Danviken Home, near Stockholm. *Cyrillus Johansson* (b. 1884), dwelling houses in Stockholm. *E. Josephson* (b. 1864), the barracks of the Horse Lifeguards, the Commercial Bank, the Military High School, all in Stockholm. He is the fortifications architect. *F. Lilljekvist* (b. 1863), restoration of Gripsholm Castle, Koberg Castle and the new Dramatic Theatre in Stockholm, and a large number of barracks. *Agi*



Stadshuset (City Hall), Stockholm (Substructure).

Lindegren (b. 1858), Gustav Vasa Church in Stockholm, and a large number of restoration work on churches and castles. *Axel Lindegren* (b. 1860), the building of the Y. M. C. A. in Uppsala, and a number of church interiors. *G. Lindgren* (b. 1863), the Police Court Buildings in Stockholm, the new residence of the Governor of Karlskrona; architect of the Board of Prisons. *G. Morssing* (b. 1878) dwelling houses in Stockholm, mortuary chapel in Nyköping. *C. Möller* (b. 1857), the church of St. John and chapel of St. Stephen in Stockholm; chief architect to Board of Public Buildings. *G. A. Nilsson* (b. 1871), school buildings in Stockholm, at Djursholm, and other places. *Ludv. Peterson* (b. 1853), the Veterinary Institute, the Strand Hotel (Stockholm). *Y. Rasmussen* (b. 1860), Vasa Church in Gothenburg, the mausoleum of John Ericsson. *T. Stenberg* (b. 1863), Gymnastic Hall and Institution Buildings at Uppsala University, the Uppland Bank in Uppsala. *E. Stenhammar* (b. 1859), Central Palace, Norrlands Bank, the Hotel Royal in Stockholm, and hospitals. *E.T. Torulf* (b. 1872), the University of Gothenburg (in collaboration with Hahr), hospital buildings and dwelling-houses in Gothenburg. *Fr. B. Wallberg* (b. 1862), Borough Court Buildings in Östersund. *G. Wickman* (b. 1858), the Banks of Sundsvall, Skåne, South Sweden Banking Co. Ld., all in Fredsgatan, Stockholm; architect of the Medical Board. *Th. Wåhlin* (b. 1864), the Free Masons' Lodge in Linköping, the Church of Annedal in Gothenburg, the Swedish Church in Copenhagen, with a large number of churche restorations in Skåne. *F. Zettervall* (b. 1862), school in Filipstad, and a large number of Railway stations on the State Railways, e. g, Gnesta, Kumla, Krylbo, and the large railway administration buildings at Tomteboda; architect of the State Railways.

In the sphere of townplanning *P. Hallman* (b. 1869) has done considerable work, and especially in the re-fashioning of Stockholm. Similar work has been performed by *Albert Lilienberg* (b. 1879), engineer, at Gothenburg, and by *N. O. Gellerstedt*, engineer, (b. 1875).

Sculpture.

With Christianity general European culture makes its first appearance on Swedish soil. Architecture marched ahead, building churches of romanesque mediæval forms, and for their embellishment pressing primitive sculpture into its service in the beginning. This sculpture was chiefly displayed in baptismal fonts and sepulchral monuments, which — as significant of man's entrance on the stage of life and exit from it — were adorned with images of saints, carved in stone. Later on, came portals with stone figures, as on the cathedral of Uppsala and several Gottland churches; images in the interior, as for instance on corbels of the chancel aisle in Uppsala cathedral; then also bronze works, as shrines for relics and whole altar-pieces, e. g. those from the church of Broddetorp in Västergötland (now in the National Museum). During the prevalence of the Gothic style in the latter part of the Middle Ages, wood sculpture flourished and created a great number of tabernacles with carved figures painted in natural colours or gilt, amongst which were seen images of the apostles and saints of Sweden, as, for instance, Sigfrid and Botvid, King Eric the Saint, St. Bridget, and her daughter Catherine. The largest and most remarkable work in that branch of wood-carving is *Bernt Notke* of Lübeck's well-known group of *St. George and the Dragon*, which Sten Sture, the elder, caused to be set up in the Storkyrka at Stockholm as a memorial of the victory over the Danes in 1471. All these mediæval objects of art were probably executed by foreigners, chiefly Germans and Dutchmen.

The same continued to be the case also during the 16th century. By degrees mediæval forms vanish before, the new style brought in by the enthusiasm for

the antique, the Renaissance. In its first German-Dutch phase it is in Sweden called the Vasa style (1520—1650). Though we look upon it as a sort of renaissance, there are, however, only few antique elements to be seen about it, if we except the structure of the architectural framework, which constitutes a support for the plastic, generally realistic, figures. But the works of art were chiefly sepulchral monuments, above all those of kings and queens. This sculptural art flourished first and finest in the reign of John III, the great lover of art.

As early as in the lifetime of Gustavus Vasa, the monument to his first wife, in the cathedral of Uppsala, was no doubt ordered from the studio of Michel Colomb at Tours (France), though it was never set up and has since been forgotten. It exhibits the finest real renaissance ornamentation to be found in the country. But John III ordered *Willem Boy*, a Dutchman, to make the beautiful memorial of Queen Catherine Jagellonica; and the magnificient monument in the same church to King Gustavus Vasa and his two later consorts is by the same master. Besides, there is another work by the same artist in the cathedral of Strängnäs: the touching monument to John's little daugther, Isabella. At Uppsala there are one or two other memorials from King John's time, namely the gilt silver-shrine of King Eric the Saint, which he caused a Danish goldsmith, *Hans Rosenfeldt*, to work out in renaissance style, since the old mediæval shrine had disappeared; and the sepulchral monument of John himself, made at Danzig (1604).

As specimens of private individuals' sepulchral monuments from the Vasa period may be remembered that of Gustaf Banér and his wife, at Uppsala (signed *Aris Claesson Haarlemensis*, 1625); that of Erik Soop and his wife, at Skara (1637, by *Peter Keyser* of Amsterdam); and that of Gabriel Oxenstierna and his second wife, in the church of Tyresö (later than 1640). At the very end of the period (1650), the south portal of the church of St. James in Stockholm was executed, embellished with images of Moses and St. James the Greater — one of the most sumptuously decorated portals in Sweden.

After the middle of the 17th century, follows the time we call the Caroline Period, and the style then making its appearance (1650—1720) is the Baroque, which in the department of sculpture, just as in that of architecture, left its special mark. It is distinguished by a passionate taste for movement, displaying itself in wavy lines, flowing draperies, and exaggerated attitudes, which is all due to Michael Angelo and the sovereign influence of painting upon the other arts. Our victors, returning from the Thirty Years' war, brought this change of style home with them from the continent. They built palaces in the baroque style and provided them with hangings and furniture, pictures and statues, which were partly the spoils of victory, and partly executed after foreign models. In all this, sculpture had the smallest share, to be sure; but mighty sepulchral monuments were continually being erected — now in baroque — and busts sculptured in Sweden are met with. But erections which also promoted sculpture were the large royal palaces, foremost that of Drottningholm, next that of Stockholm. A couple of stately baroque monuments are to be seen in the cathedral of Uppsala, viz. that of Count Dohna (signed *Verbruggen*, Antwerp 1674) and that of Bengt Oxenstierna (from a design by *Nik. Tessin, the younger* about 1690). A portrait artist in marble was *K. Schröder*, a German by birth, who in 1695 modelled and carved a bust of Charles XI (at the University of Uppsala). Amongst those who created plastic decorations for the palaces may be mentioned the Frenchman, *R. Chauveau*, who worked in Sweden 1692—1700, and *B. Precht*, a German, who settled in Sweden (1672, died 1730), and whose work chiefly consisted in the decoration of rooms, e. g. the splendid bedchamber of the Queen at Drottningholm, but also in altars and church pulpits — the

most excellent is the pulpit of Uppsala Cathedral (1707, from a design by Nik. Tessin, the younger) and the baldachino, gilded sedilia in the Stockholm Storkyrka — all in flourishing baroque.

By degrees this style is superseded by the French rococo — which, having been introduced from France together with French taste and literature under the influence of Queen Louisa Ulrica, predominated for some time, to be replaced, about 1790, by the modern antique, which then survived till about the end of the century. This period, too, is ushered into Sweden by foreigners, but this time exclusively by Frenchmen, two of whom have acquired a fame connected with the history of Swedish art. One is *J. Ph. Bouchardon*, who settled in Sweden in 1741 and died in 1753, the foremost of the two; he made a bronze bust of Charles XII — the first plastic effigy of the Warrior King — and several bronze decorations for the Royal Palace of Stockholm, e. g., the "cupids" supporting the lanterns of the grand entrance. The other one was *P. L'Archevêque*, who lived in the country 1755—77 and, besides decorative works in the Royal Palace, made the statues of Gustavus Vasa and Gustavus Adolphus in Stockholm, of which, however, neither proved a great success; he was the first director of the Academy of Arts, as reorganized by Adelcrantz, but his greatest merit by far is that he gave Sergel his early training.

Johan Tobias Sergel.
Portrait of himself.

Johan Tobias Sergel (1740—1814) became pre-eminently "the foremost artistic genius of Sweden". He was a Stockholm child but born of German parents. At an early age he was apprenticed to L'Archevêque, whom he assisted in his work on the Chapel Royal and the statues above mentioned, all the while studying at the Academy. After travelling for study in France, he managed to go to Rome during 1767—78 and made the acquaintance of the Antique. Though he could not make a study of the pieces dating from the golden age of sculpture, which modern opinion claims as the best, yet the best of what he did see made a deep impression on him. He now made it a rule, to which he kept all his life, "to render Nature according to the principles of the ancients". But how strongly, in spite of this, he took his stand by spontaneous life, is shown by his splendid Faun (1770) as also by the Diomedes, Mars and Venus, and Amor and Psyche, which were produced in Rome, as well as by the

T. SERGEL: *Amor and Psyche.*

Otryades (in Paris 1778). — When he returned to Stockholm and its cramped conditions, summoned by Gustavus III, an end was put to his creating of statues; all his time was now taken up with making busts and medallions of the members of the royal family and a number of distinguished men in Sweden. But also in this field he did fine work, for which posterity owes him a debt of gratitude; inasmuch as thanks to his medallions we now know almost the whole circle of those people of note — in state affairs, literature, and art — who surrounded King Gustavus III, even though their features are idealized. However, he received some more public commissions, viz., the large group of Axel Oxenstierna and History, a bronze piece placed on the pedestal of Gustavus Adolphus II's statue, which constitutes the first successful attempt in Sweden at representing a historical personage in his real character; further, the memorial of Cartesius, full of genius in conception as well as in execution, and the large wall-sculpture of the resurrection of Christ — both in the church of Adolf Fredrik —; also the celebrated bronze statue of Gustavus III, like the states-

man above mentioned, represented in the costume of his own time (1790, unveiled in 1808). These last works were the by no means inconsiderable result of his recall, but still he was destined by his genius for something else. He was the first who, from an ideal basis, broke with the baroque and the French traditions, and sensuous as he was, he felt called to carry that movement forward, without too strong a tendency towards the objective coldness of the Antique. But it was not vouchsafed to him to carry the work out. He became a Protesilaos, — sacrificed at the beginning of the contest and not allowed to partake in the storming of Troy. The fact that his later activity was passed in far-away Sweden prevented him from influencing the development of European art as he might otherwise have done. But he is, nevertheless, not only the first, but possibly the greatest among artists of Swedish birth.

A special kind of sculpture, most eagerly practised in this country during the 18th century, was medal-engraving. Foremost in this art stood *J. K. Hedlinger* of Switzerland, who lived in Sweden 1718—45, with one or two intervals for travels to the South, a master who, in his day, was chief in Europe, and who executed many medals recalling Grecian excellence. He was succeeded, first by his clever pupil *D. Fehrman* (1710—1801) and then by a pupil of the latter, *G. Ljungberger* (1734—87).

By continuing the traditions of Sergel, sculpture maintained its position well during the first half of the 19th century, while the other arts languished and declined. The first practisers of the art of Sergel were also his disciples — first *E. G. Göthe* (1799—1838), who, however, was more strongly impressed by Canova than by his manly Swedish teacher; then *J. N. Byström* (1783—1848), a superior rival of the former, who spent the later part of his life mostly in Rome, distinguished himself in the sensually luxurious, and became a master in the manipulation of marble: see, for instance, Juno with the child Hercules at her breast and the dainty and delightful statue of Emilie Högquist, the actress.

Of quite a different stamp was the third and best known among the sculptors of the first half of the 19th century, *B. E. Fogelberg* (1786—1854), who against the world-gods of Antiquity — worn out during the three centuries since the Renaissance — dared to set up new, original, nationally Scandinavian ideals, sprung from a sound, energetic, creative imagination. His success was also acknowledged by the respectful judgment passed by Thorvaldsen upon his Thor (in Rome 1842). Moreover, he embellished the capital with a couple of statues, excellent for their date: that of Birger Jarl and of Charles John XIV; and Gothenburg with that of Gustavus Adolphus II. His successor, both in general tendency and in monumental sculpture was *K. G. Qvarnström* (1810—67), of which evidence is afforded by his mythological group of Loke and Höder, as well as by his statues of Tegnér, Engelbrekt, and Berzelius. Contemporary with him was *J. P. Molin* (1814—73), who, after receiving his early training in Copenhagen, continued his work in Rome and, finally, acquired by his Wrestlers a fame not in any way diminished by the adverse criticism of his statue of Charles XII (1868). The brilliantly conceived fountain in Kungsträdgården (Stockholm) is also his work.

Among deceased sculptors remain to be mentioned: the successor of Molin at the Academy, *J. F. Kjellberg* (1836—85) the originator of the Linné statue in Stockholm. *A. Carlsson* (1846—78) — a disciple of Molin — best known for his bronze Vase and works of early Scandinavian tendency. *I. Fahlstedt* (1848—99), renowned for his excellence in realistic statuary and for a statue of John Ericsson, erected in Göteborg; and — last but not least — *P. Hasselberg* (1850—94), one of the foremost sculptors. He studied in Paris and made his name by his second work, The Snowdrop (1881), and has since, again and

again, glorified woman as a "symbol of the life of nature", as, for instance, in "La Grenouille" and The Waterlily, perhaps the finest sculpture of a woman produced in Sweden in the 19th century; besides which he has sculptured masterly portrait busts.

Among sculptors at work at the turn of the century are: *J. Börjeson* (1836—1910), whose chief works are the monumental statues of Geijer in Uppsala, the Holberg statue in Bergen, Axel Oxenstierna and Scheele in Stockholm, Charles XI in Karlskrona, and Charles X in Malmö, his best statue, which stamps his art with greatness, and expresses that monarch's magnificence in every respect. *A. Lindberg* (born 1839), medal engraver, studied in Paris and from there introduced into Sweden the exquisite art of French medalurgy in a series of characteristic works. His son, *Erik Lindberg* (born 1873), is equally well-known for the French grace and Swedish solidity of his productions. *E. Brambeck* (born 1843) is responsible for a modelling of Eve by the Corpse of Abel and

P. Hasselberg: *The Frog.*

CARL MILLES: *Statue of Scheele, at Köping.*

The Temptation of Christ. *T. Lundberg* (born 1852) has executed the Foster Brothers — a group in bronze — Olaus Petri — a bronze statue. — The Beach and the Wave, and Grief, the last two in marble. *G. Lindberg* (born 1852), following the tendencies of Hasselberg, has executed a good deal of decorative sculpture. *Christian Eriksson* (born 1858) took up industrial art, studied in Paris, and — with his more thorough and refined technique — became a revivalist in his department. His enormous Linné relief and the marble reliefs at the Dramatic Theatre, which are equally excellent, both from the point of view of form and composition, together with his model for The Bowman, constitute perhaps the finest work hitherto produced by this famous artist. *Anders Zorn* (born 1860) has executed excellent small pieces, and by his Gustav Vasa at Mora he has proved himself to be a sculptor of high rank. *Carl Milles* (born 1875) fortunately belongs to the prolific creators. A series of characteristic portraits, the giant statue of Gustav Vasa in the Northern Museum, the statue of Scheele in Köping, the Franzén statue and the delightful group Selma and Fanny in Härnösand, and the brilliantly original bronze gates and sculptures in

Saltsjöbaden church are among the works that this original artist has already given to the world. *C. J. Eldh* (born 1873) has studied in France and has executed a large number of delightful small pieces, amongst which may be mentioned Youth, a group, and the statue of a Young Girl, both of which are in the National Museum. These works and the high relief, Reading, in the Kungsholms realskola, Stockholm, betray a genius for reproducing the female form uncommon in Sweden. *David Edström* (born 1873), apart from many fantastic and unfinished sketches, has produced a great deal of portrait-sculpture, excellent both from the point of view of psychology and of form. *Otto Strandman* (born 1871) shows uncommon skill and taste, not least in his small pieces in wood, bronze, or silver. *Herman Neujd* (born 1872) does good work in his small pieces, and *Aron Jerndahl* (born 1858), going to the world of labour for his subjects, depicts the life of the workman in his sculptures. *C. Fagerberg* (born 1878) depicts Swedish sporting life in pieces of great merit. Finally, Mrs *Agnes Kjellberg-Frumerie* (born 1869) and *Alice Nordin* (born 1871) are among the first women in Sweden to devote themselve with success to sculpture.

Painting.

In Sweden, as everywhere else, the first attempts in the art of painting are found in association with architecture, for buildings were adorned with paintings of a decorative nature. As we have seen, this was also the case with sculpture; but sculptural decoration was, naturally enough, more rarely met with than painting, because it required more work and was more expensive. If a church was built of natural stone, painting was rather out of the question, except for the windows. If, again, the church was constructed of brick with internal plastering, it became a matter of course to decorate these plastered walls with colour, for white-wash is not met with till the 17th century, when the old paintings were washed over. And it seemed just as natural not to make use only of ornamentation, but also of representations of figures illustrating biblical or allegorical subjects; at times the creations of popular fancy were depicted. This was, for instance, the case in the archbishop's diocese at the end of the 15th century, in the time of Archbishop Jakob Ulfsson when very nearly every church in Uppland and in districts north of it was embellished with figure-decorations, which have in recent times been uncovered and restored in many places. If the church was built of wood, as was the case in neighbourhoods wealthy in forests but otherwise poor, it was still more necessary to paint the interior and shingle it externally. Thus, for instance, the church of Råda, in Värmland, (about 1320) has both the chancel and nave decorated with splendidly executed figures. This was also the case with the church of Vrigstad, in Småland, (pulled down in 1865). Gottland particularly had an abundance of stained windows with biblical figures, of which many are still preserved in many places. An example may be adduced in the beautiful church of Dalhem, near Visby. All these pictures are of value as regards the history of culture, though artistically they may sometimes be worth little. Their primitive innocence, however, is always touching evidence of a pious devotion and a zeal to make the house of God attractive to the congregation. Besides, it is not so much the details that are of so great significance as the entire building, for as a rule not the smallest part of roof or vault, walls or windows were left unaffected by the desire to ennoble the structure by means of form and colour. And such being the case, the choice of ornamentation and colours are generally of predominant interest.

Jakob Ulfsson died in 1521, but, as long as he lived, the decoration of the churches was, no doubt, carried on in the same way as before, and much the

same kind of painting was also found in palaces and dwelling-houses, although with some change of subject when the purpose was secular. With the accession of King Gustavus Vasa and the early predominance of the Vasa style in all new palaces, a decided change appeared also in the style of painting. The sleeping-chamber of Erik XIV in Kalmar Castle gives an idea both of decoration and of painting. The former is "intarsia" both as regards the ornamental work — which, like the whole room, is Renaissance in style — and as regards the inlaid landscapes. Painting is represented by the large frieze above the wainscot, the subject of which is a wild-boar hunt modelled in plaster and painted in natural colours. Also the older parts of Gripsholm Castle, where the old painting, is preserved, especially in the bed-chamber of Duke Charles ("the prison of Johan III"), furnish an idea of native Swedish ornamental painting.

From the time of Gustavus Vasa inclusive, portraits of Swedish men and women begin to occur, but as far as is known, they are always executed by foreign painters — Germans or Dutchmen. Gustavus is known to have been in communication with Jan van Scorel, a master of the old Dutch school. Portraits exist of the King himself (1542) and of his sister Margareta (Gripsholm and Uppsala). But it was not till the 17th century that painters of distinction appeared in Sweden. One of them was *J. H. Elbfas* (died 1664), who, between 1625 and his death, executed notable portraits of eminent men of his time, such as Gyllenhielm, Skytte, Axel Oxenstierna. A couple of foreigners were introduced by Queen Kristina, but they soon returned home; they were the Dutchman, *Dav. Beck* (1621—56), known for his portrait of the Queen, and the Frenchmen, *Sébastien Bourdon* (1616—71), who also painted her. The most remarkable portrait of Kristina is, however, one by the Dutchman, *Abr. Wuchters* (died 1683), in Uppsala, 1667. Great harm was inflicted on artistic culture in Sweden by this queen's carrying away with her, on her departure, those paintings by renowned artists — chiefly Italian — which, during the Thirty Years' War, had been brought home as booty from Southern Germany and Prague.

At the commencement of the Carolinian Period, in the latter part of the 17th century, there appeared a man destined to exercise a great influence on art in Sweden, namely the German, David Klöcker, ennobled later on as *Ehrenstrahl* (1629—98), who came about 1650 already but did not finally settle in the country till 1661. He was then appointed "court-portrait painter", and gradually formed a school, which, during the end of the 17th and the beginning of the 18th century, became of importance for art, even though the importance was transitory. In the course of a foreign tour he got the opportunity of studying, first at Nuremberg, and then chiefly in Rome under Pietro da Cortona. Thus, his style was based on the principle of Italian baroque, viz. to follow in the steps of the great masters, by which also a great deal of German heaviness affected the unavoidable presentations of allegorical subjects. This shows plainly in his large decorative works, ceilings and wall-paintings, e. g. the ceiling of the hall in the House of the Nobility — the "Consultation of the Virtues" (1674) — and in similar pictures at Drottningholm. A couple of large, but rather meaningless religious pictures are: "The Crucifixion" and "The Last Judgment" in the "Storkyrkan" (the great church) in Stockholm. During the whole of his activity, Ehrenstrahl shows a rather lively appreciation of colour. But what he lacks again and again is the power of individualizing. And yet he had begun as an excellent portrait-painter, as for example in his likeness of Erik Dahlberg (1664, at Uppsala) and several portraits of Charles XI, alone or together with the Royal family. That he also had an appreciative eye for nature is shown by his pictures of horses, dogs and other animals, often with a setting that is astonishingly modern, as well as by the landscapes he painted as backgrounds to many of his pictures.

David and Saul. Painting by J. KRONBERG.

His best-known pupil was a relative, *Dav. v. Krafft* (1655—1724), who became portrait painter to Charles XII and left many likenesses of that king, from the first years of his reign till the last. Besides him, there were many portrait painters during that period, such as the Dutchman *Martin von Meijtens*

(1695—1770), who came into the country about 1670 and painted, amongst others, Olof Rudbeck, the Elder (in Uppsala); likewise his relative *George Des Marées* (1697—1775), who was born in Stockholm but, after producing many good portraits in Sweden, transferred his activity to Germany. There may be added *J. F. Lemke* (1631—1711), summoned from Nuremberg, who painted at Drottningholm Palace the battles of Charles X and Charles XI in Poland and Scania. As we have seen, all these artists were either immigrants or, at any rate, of foreign extraction. But, at the end of the long line, we have also to remember two Swedes, *Johan Sylvius* (died 1695), who worked at the decoration of Drottningholm with plafond paintings, and *Erik Dahlberg* (1625—1703), the great engineer-general, who, in his youth, visited Italy and there studied drawing at the side of his "portrayer", Klöcker, and later on, produced outline sketches, as the basis for the battle-pieces of Lemke; and lastly, in his well-known collection of copperplates of Swedish towns and manors called "Suecia antiqua et hodierna", raised an artistic memorial to himself of lasting value.

It was the disciples of D. v. Krafft who, during the first third of the 18th century, supplied the demands of the time in the art of painting, i. e. as portraitists. These were, first, the two older men, *J. D. Swartz* (1678—1740) and *G. Schröder* (1684—1750), then *Lor. Pasch the Elder* (1703—66), who, at the beginning of the Period of Liberty, was fashionable as a portrait-painter, *O. Arenius* (1701—66), son of a clergyman in Uppland, who succeeded Pasch about 1740, and *J. H. Scheffel* (1690—1781), who lays a bridge between the old manner of painting in dark colours and the fair tints of the rococo.

Thus, the way was paved for the French influence on Swedish painting, and this became the prevailing influence when the Frenchman *G. Taraval* (1701—50), on the impulse of K. G. Tessin, was called in, in 1732; in 1735, the Academy of Painting was started by the drawing school of Taraval. He unselfishly undertook to be the drawing-master at the new institution, persevering till his death, and at the same time he worked on the decoration of the Royal Palace. The first advocate of the French tendency was the Swede, *G. Lundberg* (1695—1786). After living in Paris, 1717—45, and acquiring there the typical art of the rococo — pastel-painting — in the studio of the Italian lady-painter, Rosalba Carriera, he came home in 1745 and soon became the favourite painter of high society. Lundberg himself was also a man of the world, such as the time demanded, and was most successful in ladies' portraits, among which certainly the best is the unfinished picture of Mrs Schröder at the Academy of Arts. He was the first to make a long stay in "the capital of taste" at that time, and was followed by a whole succession of Swedish painters, who went to find their artistic education in Paris. They came under the influence of the solid technique of the French school, and many remained there as naturalized Frenchmen for the rest of their careers.

Foremost amongst these men may be deemed *Alex. Roslin* (1718—93); from his native town, Malmö, he came up to Stockholm in 1736 and there studied under Schröder, after which he went to Germany and Italy in 1745 — everywhere painting for his living. At last, he arrived in Paris, 1752, where, no later than 1753, he became a member of the Academy. There he settled permanently. About 1775, he visited his native country and stayed for some time in St. Petersburg. Otherwise he had his home in Paris, where he had married, and there he died in the midst of the revolution. During the days of his full power he was the painter of the aristocracy, and is now numbered in France among the genuinely good painters: deeply characteristic portraits of Linné and Louisa Ulrica stamp him as a psychologist. Possibly none of his contemporaries possessed his sovereign technique in the handling of materials. In Sweden, this art of his is represented by the large portrait of

Gustavus III at Gripsholm, as also by several excellent portrait-groups. — In Paris also lived *P. Krafft*, the Elder (1724—93), and on his return home he executed portraits of middle-class circles; there *Lor. Pasch*, the Younger (1733—1805), likewise lived, and after his Paris studies became the portrait painter of the Gustavian Period among the higher classes. — In Paris remained not only Roslin, but also the two renowned miniature painters, viz., *P. A. Hall* (1739—93), "The Van Dyck of miniatures", and *Nik. Lafrensen*, the Younger (1737—1807), the former of whom devoted himself exclusively to portraiture; the latter, a high class painter in water-body colour, has depicted with remarkable skill the more intimate sides of French society life. Here may still be added two more of these Paris students, namely *P. Hillesström* (1732—1816), a delineator of family scenes from the Gustavian Period with a smack of Swedish bourgeoisie, and *A. U. Wertmüller* (1751—1812) who painted portraits (the regal Maria Antoinette, and Washington), and mythological figures (Ariadne, and particularly his stately Danaë, now in the National Museum), partly in Paris, partly at home in Sweden, finally in America, where he died.

A Hero's Death. Painting by N. Forsberg.

The last group of painters of the Gustavian Period comprises those who had less to do with French art as a model, but looked in other directions for their ideal, and are partly numbered amongst the friends of Sergel. One of these independent painters, *K. G. Pilo* (1711—93), does not altogether belong to the Swedish school of painting, because, though born a Swede, he spent his principal time of activity in Copenhagen, where he became the director of the Academy, and only returned to Stockholm at sixty years of age; there he exerted great influence on the development of the Academy. He then painted his chief picture, "The Coronation of Gustavus III" (the National Museum), which, however, remained unfinished. It is a masterpiece in colouring and light and shade. *J. L. Desprez* (1737—1804) likewise stands alone; he was engaged

as an artist decorator for the new Opera House but also worked as a painter of pictures and as an architect. A soul most congenial to Sergel, in being an adherent of the Neo-Antique, was *L. A. Masreliez* (1747—1810), who had arrived in Sweden in his early childhood; a man more notable for his refinement, his ability as a teacher and as a promoter of industrial art with purity of ornamentation, and for his drawing, than for his pictures. To the same circle also belonged *Elias Martin* (1739—1818), who studied mainly in London, and became Sweden's first real landscape painter, preceded only by *J. Sevenbom* (1721—84), an unimportant man who painted views of Stockholm. But Martin was, moreover, a figure-painter and at times a really good portrait-painter, in whose works his English studies and the dawn of romance may be traced. The same is the case with the last portrait-painter of the epoch of Gustavus III, *K. F. v. Breda* (1759—1818), who after studying with Sir Joshua Reynolds in London, produced excellent likenesses of ladies and gentlemen of his time, whom he rendered with characterization, bringing to mind the English art of his day, with an aristocratic atmosphere and a flavour of the melancholy then fashionable.

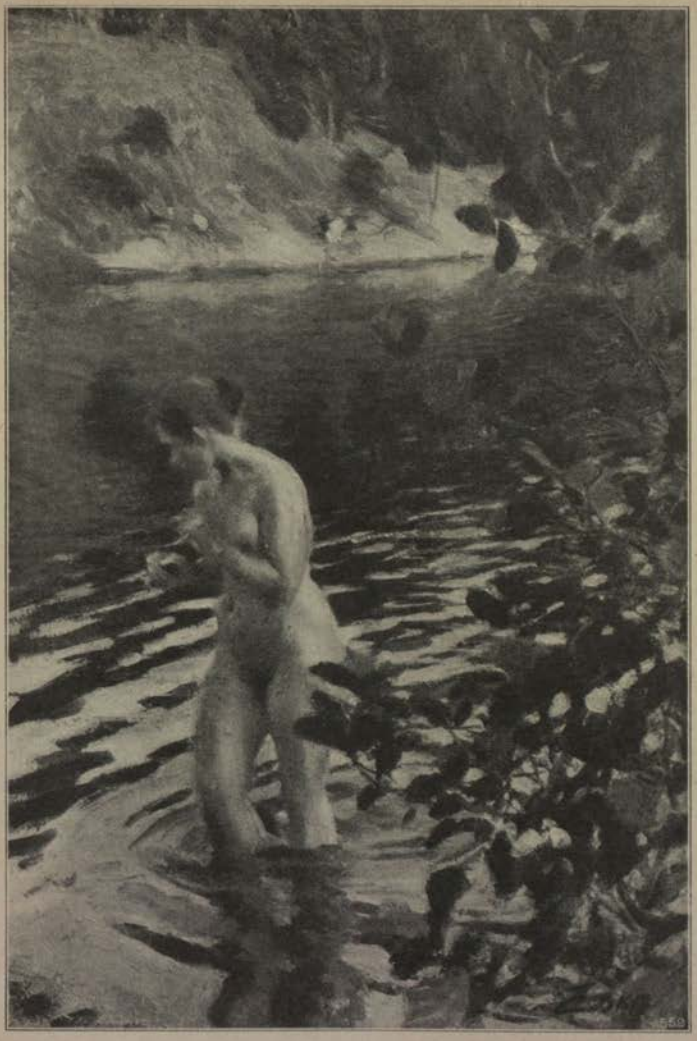
During the 18th century, the art of line-engraving was also cultivated with a certain predilection, and the principal engravers were: *P. G. Floding* (1731—91), who even organized an engravers' school, *J. Gillberg* (1724—93), and *J. F. Martin* (1755—1816) — brother of the painter — who, besides painting portraits, also painted landscapes and pictures from Stockholm.

If painting, like sculpture, had enjoyed a golden period during the Gustavian Period, the position of these two arts, during the first few decades after 1809, would have become rather different. While, as we have seen, sculpture, subsequent to Sergel, kept at a relatively high standard, there occurred, soon after the decease of the surviving Gustavians, a retrograde movement in the art of painting, which now offers little of interest. The representatives of this untalented routine-work were *F. Westin* (1782—1862), whose historical pieces were as meaningless and monotonus as his portraits, and *P. Krafft*, the Younger (1777—1863), who at first inspired great hopes as a portrait-painter, but these in course of time, were gradually falsified. He painted his best portraits in the 18th century. The landscape-painter, *K. J. Fahlcrantz* (1774—1861), attained a certain celebrity for his romantic pictures with a kind of vague and "universal" ideal. — The academic tendency soon met with opposition, not only from critics, but also from artists longing for a more liberal and natural conception and mode of presentation. The first champion of this opposition was *J. G. Sandberg* (1782—1854), and he was seconded by Fogelberg, the sculptor. His sketches from popular life and the historical frescoes in Uppsala Cathedral were respectable attempts at a new style of presentation; his portraits certainly were not to be compared with Breda's, but they were always truer than those of Westin.

These three — Westin, Fahlcrantz, and Sandberg — never went abroad, and studies in Paris had now come to an end. It was to Rome instead that the painters — like the sculptors before them — wended their way for study. Among the first to find their way to Rome was *O. J. Södermark* (1790—1848), one of the many military men in Sweden who have acquired fame as artists. He was a clever portraitist, who honestly and faithfully kept to nature. His Berzelius, Jenny Lind, and Fredrika Bremer are classed among the really good portraits produced in the first half of the 19th century. A still more accomplished man within the same sphere was his protégé in Rome *U. Troili* (1815—75), with whom this kind of painting again began to rise in Sweden. This all too unassuming artist was noted for his sense of colour and his character. His portraits of A. O. Wallenberg, the financier, and his wife adorn the National Museum. A third pilgrim to Rome was *N. J. Blommér* (1816—53),

who arrived there viâ Paris, where he died an early death after having given shape, in a foreign country, to his imaginative dreams about the sagas and mythological figures of the North. *Egron Lundgren* (1815—75) visited not only Rome and Italy, but also Spain and India; he lived much in England and has left us the memoirs of his travels in excellent water-colour pictures. Within Swedish art he was cosmopolitan type, and showed refined taste both as author and painter. *J. Stäck* (1812—68) and *G. V. Palm* (1810—90), both landscape-painters, also went to Rome; the former has, moreover, painted views of Holland,

CARL LARSSON: *Fresco in the National Museum.*
Gustavus III viewing sculptures from Italy.



A. ZORN: *Girl Bathing.*
Original in the possession of H. R. H. Prince Eugen.

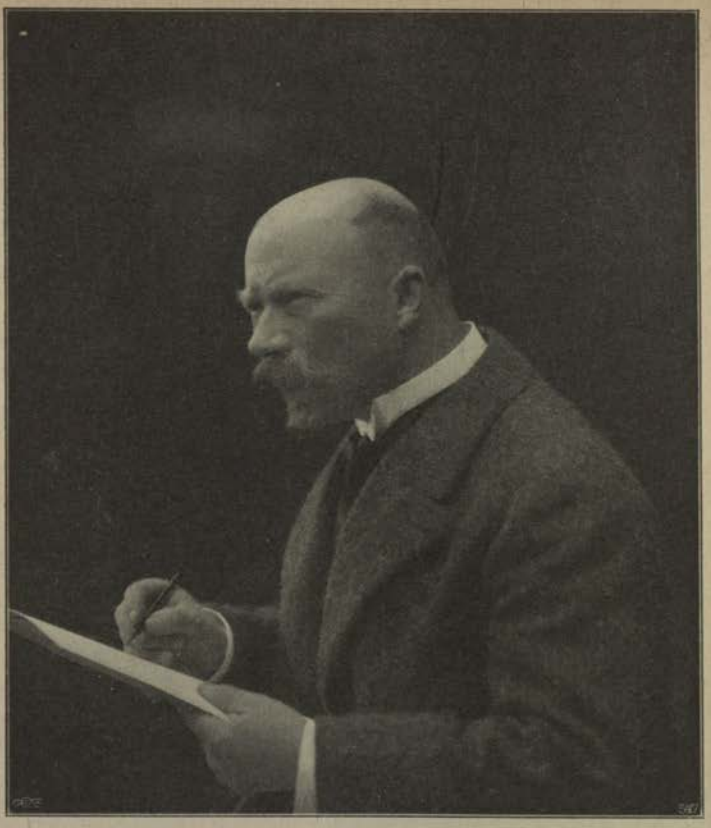
the latter mostly of Italy and Sweden. *J. Boklund* (1817—80) rendered his best services as a teacher and as a director of museums.

Among other painters belonging to the middle of the 19th century may here be mentioned: *P. G. Wickenberg* (1812—46) — the protégé of Sandberg — who in Paris astonished the world with winter-landscapes of the North, recalling the manner of the old Dutch painters; *S. M. Larson* (1825—64) was of a volcanic, passionate nature, and by his impetuosity ruined his great talent. Unmethodical but powerful, he painted cataracts in lugubrious surroundings, and marine-pieces with good light effects; *Edvard Bergh* (1828—80), the loveable and faithful picturer of birchwood scenery in the Mälaren valley; *J. Höckert* (1826—66), who studied in France, where he acquired a reputation as an excellent colourist,

and even sold his works to the French nation. Though his pictures from national life of Lappland were often too stiff, he was yet a genuine artist in his historical paintings, especially in "The Palace Fire, 1697", where he attained picturesqueness and beauty which are increasingly appreciated. *K. D'Uncker* (1828—66) went to Düsseldorf for his education, to which town he attracted many Swedes, and became a master in character pictures with modern motives and many figures; and *F. Fagerlin* (1825—1907) and *A. Jernberg* (1826—96) both illustrate the climax of the Düsseldorf School in artistic talent. *M. E. Winge* (1825—96) strained for effects in monumental historical painting, with ancient Northern motives, and *J. A. Malmström* (1829—1901) rendered with greater art the old Northern sagas, and drew severe illustrations for Frithiofs Saga and Fänrik Ståls Sägner and sketched the life of the child on peasant farms. Among landscape-painters we note *Alfred Wahlberg* (1834—1906), who introduced the harmony-landscape from France, and *G. Rydberg* (born 1835), who depicts his native districts of Skåne.

The most prominent Swedish painter of the decade 1871—80 was count *G. von Rosen* (born 1843), who has, with solid, aristocratic talent, endowed Sweden with portraits and historical paintings of the greatest merit. Among his portraits are Charles XV, Pontus Wikner, C. G. Malmström, C. O. Troilius, etc.; his historical pictures include those of Eric XIV's life and etchings of themes from the 16th century, showing a remarkable appreciation of history. *H. Salmson* (1843—94) was influenced in France by the school of descriptive realism in the eighties and produced pictures of popular life from Picardie and from Skåne. *G. Cederström* (born 1845) painted pictures treating of the Caroline Period with a cold colour scheme and forms that reflect much of the best of the French school. His "Funeral Cortège of Charles XII", belongs to the highest rank of Swedish historical art. *N. Forsberg* (born 1842) depicted among his historical works an episode out of the Franco-German war, "A Hero's Death", and "Gustavus Adolphus at Lützen". He is a representative of the French school, while *K. G. Hellqvist* (1851—90) is a champion of the German tendency. *J. Kronberg* (born 1850), aimed at resplendent colouring and schemes of decoration and produced studies after Rubens and the Venetian school. His most celebrated efforts are "The Dryad", "David and Saul", decorated ceilings in the main entrance of the Royal Palace, in the Hall of the Dramatic Theatre, and in Adolf Fredrik church.

Opposition to the Academic conception, which began to make itself felt during the eighties in most parts of Europe, broke out in Sweden in 1885. A number artists, returned from Paris and strongly influenced by the French style of open-air painting, banded themselves together against the attitude of the Academy towards art. From this movement arose the Artist's League in 1886, but even outside this narrow circle both young and old artists were influenced by the new and brighter style of painting. The man who took the initiative in this opposition was the impassioned and romantic *Ernst Josephson* (1851—1906), who while living at Paris in the eighties came under the influence of modern French painting. His powers were broken by his mental malady as early as 1888. Many observers, in Sweden and beyond it, look on him as the most distinguished personality of the country in the realm of painting. Among his convasses we note the portrait of G. Renholm (in the National Museum), "Spanish Blacksmiths" (in the National Gallery at Christiania), and the "River God", which is possibly his most important and most debated work, now in the possession of Prince Eugen. Among older landscape-painters is found *O. Arborelius* (born 1842), who depicts the scenery of Dalarne and Bergslagen, and *R. Norstedt* (1843—1911), influenced by the best French landscape-art of the fifties and sixties. The latter, who specialized in depicting Södermanland scenery, belongs



Carl Larsson.

to the most sensitive of landscape-painters. *A. Lindman* (born 1848) has painted Italy and Stockholm; *K. Skånberg* (1850—83) produced highly refined harbour views in excellent colouring and pearl-gray tones. *E. Rosenberg* (born 1858) is the painter of the Stockholm neighbourhood, and in "A March Evening" (at the National Museum) he has a landscape of severely Swedish feeling. *A. Schulzberg* (born 1862) is fond of motives from Dalarne in winter aspect; and *G. Kallstenius* (born 1861) has became a prominent depicter of the Swedish archipelago, and the magnificient and solemn pine forests. *V. Smith* (born 1867) and *P. Svedlund* (born 1865) have painted scenes from Italy and Bruges and also from Sweden, and both excell in colour-work. *E. Hedberg* (born 1868) depicts the peasant farmers of Gästrikland and the sterile beauty of that region. Swedish scenery and people are dealt with by the skill of *G. Ankarcrona* (born 1869), whose merit lies not least in this direction, and *E. Stenberg* (born 1873), whose portraits are frequently excellent, has indeed rendered the humble folk of Dalarne in our day both with beauty and ethnographical exactitude. *A. Bergström* (born 1869) has shown great talent in reproducing atmospheric effects, both the winter's chill and summer's oppressiveness. These artists and others who have come near to Academician's rank, some as teachers others as bursary-students, have all come under the influence of the new tendencies. *A. Jungstedt* (born 1859) has entered the ranks of portrait-painters with official works.

Bernhard Österman (born 1870) and *Emil Österman* (born 1870) have both reproduced many important Swedish personages. The latter in his portraits of King Gustaf, Admiral Lindman, and — possibly his most artistic effort — Professor Curman has evinced not only deep skill, but also a sense for the characteristic.

A. Zorn in his Studio, Mora.

Oscar Björck (born 1860), by reason of his downright realism, is an authoritative exponent of certain great traditions of the eighties, but chiefly, perhaps, in the sphere of portraiture: Prince Eugen, Verner von Heidenstam, Frænkel, the bankdirector, Princess Ingeborg, Baroness Trolle.

Alf Wallander (1862—1914) is a pastel-painter, but best known for his energetic work in the realm of industrial art. Mrs *Gerda Wallander* (born 1860) is an unusually proficient painter, and *R. Thegerström* (born 1857) has produced not only fine portraits (Wilhelm Stenhammar) but also wall-decorations. *Georg Pauli* (born 1855), in an eager quest for the principles of mural decoration,

has shown evidence of skill in that art both in point of knowledge and refinement: the fresco "Dressing the Maypole" (in the Norra Latin Secondary School, Stockholm), the decorations of the Music Hall in Östermalm Secondary School and in that of Jönköping are his foremost works.

Three artists, who, both within the country's frontiers and beyond them, represent modern Swedish art, are *Carl Larsson* (born 1853), *Anders Zorn* (born 1860), and *Bruno Liljefors* (born 1860). The first is a fresco painter — the wall-pictures in the National Museum — and has painted ceiling decorations in oils in the Opera House and the Dramatic Theatre in Stockholm, and wall-paintings in Stockholm, Gothenburg, and Norrköping schools. He is an water-colour painter of motives from home-life, a lithographer, and etcher. Combining intimacy with a strong attitude and powerful personality, his style is marked by genius, and this prolific artist is uniquely popular.

Anders Zorn, equally great as both painter and etcher, may take his place with Rodin as the best known living artist in the world. His paintings are impressionist portraits and scenes from Dalarne, and he shows a wonderful power in nude studies. Especial mention should be made of the portrait of Oscar II, with its fulness of character, and "After the Bath", in the possession of C. R. Lamm. Zorn has no living rival in etching.

Bruno Liljefors depicts Swedish forests. He shows a marked preference for wild beasts in their retreats, seagulls on foaming wavecrests, owls and foxes in recesses of the woods, and his originality and skill are such as to have endeared him to Sweden, as one of her devotees to open scenery.

Richard Bergh (born 1858) has produced little, but his spirited attempts show deep emotion in his few but distinguished likeness. We may specially cite the portraits of Professor Warburg, Gustav Fröding, Miss Eva Bonnier, August Strindberg, and the group "the Artists' League Committee".

Mrs *Hanna Hirsch-Pauli* (born 1864) has attained more depth and power in art than any other of the lady-painters of Sweden. Among lady-artists ought also to be mentioned Miss *Charlotte Wahlström* (born 1849) and Miss *Harriet Sundström* (born 1872).

Among modern landscape pointers, *Karl Nordström* (born 1855) fills his canvasses with strenuous manhood, and *Eugen Jansson* (born 1862) elicits a powerful spirit of harmony. The technique and interpretation of both these artists stamp them as vigorous and original personalities. *J. A. G. Acke* (born 1859) is fanciful but has done happy work in sea-scapes. *Herman Norrman* (1864—1906), is distinguished as a colourist, and has done some important land-scapes.

Nils Kreuger (born 1858) is in the best sense one of Swedens genuine artists; his fame is derived from drawing individuals, and a strong touch of decorative power; his horse and cattle pictures from Öland and Halland form, each in its own landscape, an artistic whole.

Axel Sjöberg (born 1866) has reproduced in strong tints bird life in the sunshine of the eastern archipelago. *Otto Hesselbom* (1848—1913) devoted himself to expansive views of woodland, and purple mountain ridges, and *Carl Wilhelmson* (born 1866), though hard and rugged, is an artistic exponent of the people and scenery of Bohuslän.

Prince Eugen (born 1865) is pre-eminent in one typical detail of Swedish scenery — viz. the nights in summer. He is equally prominent as an artist and a patron of art; and his principal renderings of Stockholm scenery have, during the last few years, developed a style that is really monumental: wall-paintings in the Norra Latin Secondary School, in that of Östermalm, and the altarpiece in Kiruna.

Gösta von Hennigs (born 1866) uses strong colouring for the cosmopolitan life of the circus and variety stage. *Gustaf Fjæstad* (born 1868) is a painter

of snowscenes with decorative setting. *Axel Törneman* (born 1880) strives with success after great efforts of decoration — wallpainting in Östermalm Secondary School, and frescos for the great Hall of the Second Chamber. *Gunnar Hallström* (born 1875) draws and paints with absolutely genuine Swedish feeling the life and scenery of Björkö and Lake Mälaren. *Olle Hjortzberg* (born 1872) illustrates books and decorates churches in powerful style, with a touch of the oriental. *A. Trulson* (1874—1911), a special Scania-painter, is also to be mentioned.

Ivar Arosenius (1878—1909), and *Albert Engström* (born 1869) shine as humorous artists, quite original and of high merit as draughtsmen; their drawings, whether burlesque or full of sentiment, penetrate to the roots of Swedishness.

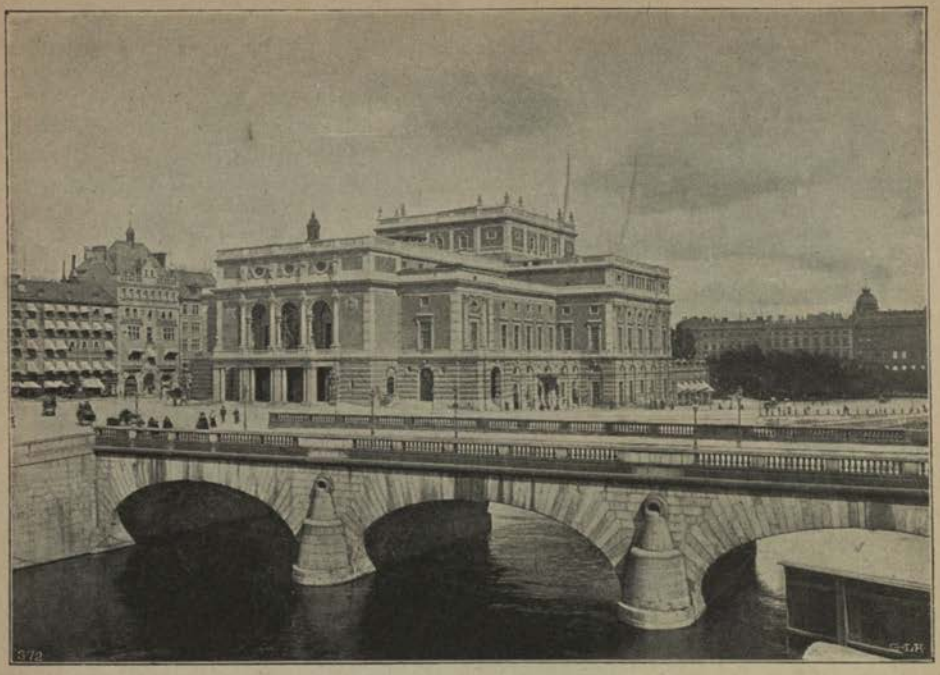
Besides Zorn and Larsson, the two great etchers, we may mention *A. H. Hägg* (Haig) (born 1835), *R. Haglund* (born 1844), *A. Tallberg* (born 1860), *E. Norlind* (born 1877), *G. Burmeister* (born 1886), and *T. Johansson-Thor* (born 1889).

Music.

Singing and instrumental music were found in Sweden in the earliest times. Church and secular music were also cultivated during the Roman Catholic era and acquired a predominant position especially at the royal court.

Ever since the time of Gustavus Vasa, the majority of the rulers of Sweden have exhibited a warm interest for the art and in certain instances have themselves studied it. King Gustav not only had "a keen desire to listen" to vocal and stringed music, but he took his own part in singing and playing on the lute, and gathered foreign musicians round him; his sons maintained a court chapel and engaged Italian performers. Gustavus Adolphus II, under whose reign lectures in the subject began to be given at Uppsala University, spent large sums of money on his musicians; exquisite ballets with choral and instrumental music were produced at the court of Queen Christina, and Charles XII introduced a French theatrical company in the early years of his reign. King Adolf Fredrik is described as a skilful celloist, and his consort Louisa Ulrica played on the harpsichord; under the patronage of the royal couple, music was favoured and promoted. This was still more the case after the accession of Gustavus III, a great lover of art; he founded the Academy of Music, which established the Opera. King Oscar I was a composer, Oscar II took a lively part in its activities in the capacity of president of the Musical Academy, an office which he filled for nine years, and one which His Majesty King Gustavus V has likewise occupied for a decade.

Musical composition, however, can scarcely be said to have begun in Sweden before about the end of the 17th century, when its foremost representative was *Gustav Düben, the Elder*, (died 1690). During the next century the number of composers increased; among them we find *Johan Helmich Roman* (1694—1758), who was afterwards called "the father of Swedish music": he developed a wide and varied activity in his native-land. *Johan Agrell* (1701—65) won fame in Germany. It was in the time of Gustavus III that *Karl Mikael Bellman* (1740—95) a Swedish poet and singer appeared; he was the most popular in his country as well as the greatest in Scandinavia — a well-known encomium passed on him by Tegnér. It is true that Bellman cannot be termed a musician in the proper sense of the word, because the melodies to which he set his works were taken from the music current in his day in different parts. But his faculty for transforming and adapting them to their purpose was so great that they became inseparably fused with his poetry for ever.



The Royal Opera, Stockholm.

Swedish music first experienced a national tendency at the beginning of the eighteenth century. Swedish composers certainly acquired — as before that time and ever since — an impress from the productions by the great masters in the world of music. But even in this sphere it holds good on the one hand that "all culture is after all acquired, but barbarism was once native to the soil". On the other hand, the native art of music has more and more given expression to the character of the country and its people, and has also utilized the folk-songs by imitating them or employing them as a foundation on which to rear a more artistic musical fabrik. This commenced particularly in the province of ballads and men's quartettes. This is discernible as early as *J. E. Nordblom* (1788—1848), it is conspicuous in *Erik Gustav Geijer* (1783—1847) and *Adolf Fredrik Lindblad* (1801—78). Both of the latter composed chamber music (Lindblad also two symphonies and an opera), and both wrote chiefly vocal solos. Geijer, a university professor, historian, politician, and poet, could only apply himself to music in his leisure hours, between periods of onerous duties. Lindblad, called "the Schubert of Sweden", preferred to embody Swedish scenery and folk life in his great production of songs, which were chiefly written to his own poems. *J. A. Josephson*, too, (1818—80), in addition to a symphony, cantatas, choral works, etc., principally wrote part-songs and glees for men's voices ("Our Country", "In praise of Ring", "Bright twinkling Stars", etc.) which are still much sung. The foremost representatives of choirs and quartettes for men, in the first phase of the past century, were *Otto Lindblad* (1809—64) and *Gunnar Wennerberg* (1817—1901). The latter, who also set the Psalms of David to music and wrote long sacre chorales, gained great popularity not only with his national hymns and choral work for men, but also with "Gluntarne" a cycle of poetical duets skil-

fully describing student life in the 'forties — especially that of Uppsala. *August Söderman* (1832—76) was Swedish in his music as in temperament. The majority of his works bear witness to a richness of invention and independence. His original, simple, and shapely melodies are often connected with the music and structure of folk songs. He has composed exquisite ballads for orchestral performance ("Tannhäuser", "The Mill-Ruin", "The Black Knight", The Mermaid", "Heart-Grief", "The Pilgrimage to Kevlaar"), Roman Catholic masses, chorales for mixed and men's voices, "The Yeoman's Wedding", and others music for scenic setting, ("The Wedding at Ulvåsa", "The Maid of Orleans", "Richard III", etc.), solos etc. His chorales for men, whether serious or humorous, and his delightful animated songs, have earned wider vogue in Sweden than those of most other composers; his "Yeoman's Wedding" and "Ulvåsa-march" are well-known in various quarters of the globe.

August Söderman.

The majority of Swedish composers have written songs for one voice. In those produced by *Emil Sjögren* (born 1853) there is a predominance of works evincing rich fancy, a flow and warmth of melody, and skilful grasp of accompaniment. Larger pieces occur amongst them, such as the magnificent "The Miner", and the comical "Bailiff at Tenneberg". Sjögren is distinguished among contemporary composers as the one whose songs are probably the most known and best received both in Sweden and abroad. Besides, he is the author of eight sonatas and a large number of pieces for the piano, organ etc.

Instrumental composition has flourished increasingly ever since the beginning of last century. *Franz Berwald* (1796—1868) an original man and full of ideas, called by Hans von Bülow "a musician who thinks for himself", wrote no less than four symphonies, orchestral pieces, a great amount of chamber music, etc. *Albert Rubenson* (1826—1901) in the sphere of symphonies, (symphony in C-major) was probably the first in Sweden to appropriate folk-melodies. We may mention three symphonies, 4 overtures, an octet, sextettes, a quintet, and quartets, etc., among the instrumental achievements of *Ludvig Norman* (1831—85); they are noble and perfect in form. In addition, he has composed excellent pieces for choirs ("Rosa rorans", a motette, cantatas) and a number of songs, in which the gentle and kindly side of his character is predominant.

Andreas Hallén (born 1846) has composed a great deal for the orchestra ("The Island of Death", "A Summer Story", the Suites of Valdemar and Gustavus Vasa, Swedish Rhapsodies) and a number of vocal works, too, ("The Princess and the Page", Sweden, Christmas-Oratorio, Styrbjörn the Strong, etc); these are characterized by a fresh and alluring movement, delicious climaxes and skilful orchestration.

Works for or with the orchestra have been written by *Andreas Randel* (1806—64), *Fritz Arlberg* (1830—96), *Aug. Körling* (born 1842), *Wilhelm Svedbom* (1843—1904), *Anton Andersen*, (born 1845 in Kristiansand), and *J. A. Hägg* (born 1850).

Among the younger composers of instrumental music *Wilhelm Stenhammar* (born 1871) and *Hugo Alfvén* (born 1872) stand in the front rank. The former has produced lengthy and important works reflecting his own personality in their composition and well-rounded in form, among others a symphony, two concertos for the piano, "Midwinter", four string quartettes, a chorale "One nation", "Snöfrid", the ballads "Florez and Blanceflor", "Ithaka", etc., and some songs of remarkable merit. In the composition of 3 symphonies, orchestral works, ("A Tale of the Islands" "Eulogy on the death of Oscar II", "The Midsummer Vigil",) chorales, etc, Alfvén discloses a warmth and intensity of melodic form that is unusual in the north, great familiarity with counterpoint, and a developed feeling for orchestral effect.

Among other composers may be mentioned *Johan Lindegren* (1842—1908), the teacher of some of the younger composers *Ivar Hedenblad* (1851—1909), *Richard Henneberg* (born 1853), *Karl Valentin* (born 1853), *Gösta Geijer* (born 1857), *Erik Åkerberg* (born 1860, chamber music and chorales), *Lennart Lundberg* (born 1863, piano pieces), *Bror Beckman* (born 1866, symphony, a symphonic poem "On Fortune", "River Songs"), *Tor Aulin* (1866—1914, three concertos for the violin), *Gustaf Hägg* (born 1867, trio for the piano, organpieces), *Wilhelm Peterson-Berger* (born 1867, two symphonies, orchestral ballads, several songs), *Knut Bäck* (born 1868), *Ruben Liljefors* (born 1871, symphony, concerto for the piano), *Olallo Morales* (born 1874), and the lady composers *Elfrida Andrée* (born (1841) and *Valborg Aulin* (born 1860).

The younger generation claims *Adolf Wiklund* (born 1879), *Natanael Berg* (born 1879), *Otto Olsson* (born 1879), *Harald Fryklöf* (born 1882), and *Ture Rangström* (born 1884).

Public musical life in Sweden has largely been centred in the capital. After several foreign companies had appeared during the 18th century, through whose activities French taste in music was introduced and long prevailed Gustavus III founded the national opera. The King induced artistes of both sexes from the higher ranks of society and official circles to take parts in Opera and personally sketched out the libretto for the first Swedish performance. This was worked up by Wellander, set to music by Uttini, and then the work, "Thetis and Peléus", was presented in 1773. Some years afterwards, the Opera House was opened on the same site on Gustavus Adolphus Square as is now occupied by the present building, and for more than a century (or till November 1891) it served as a home for the national goddesses of song. At the inaugnation in 1782, the opera "Cora and Alonzo" was presented, with music by *J. G. Naumann* (1741—1801), who was invited to Sweden by Gustavus III, and who set to music Kellgren's work, executed on the basis of the King's "Gustavus Vasa", an opera produced about 200 times.

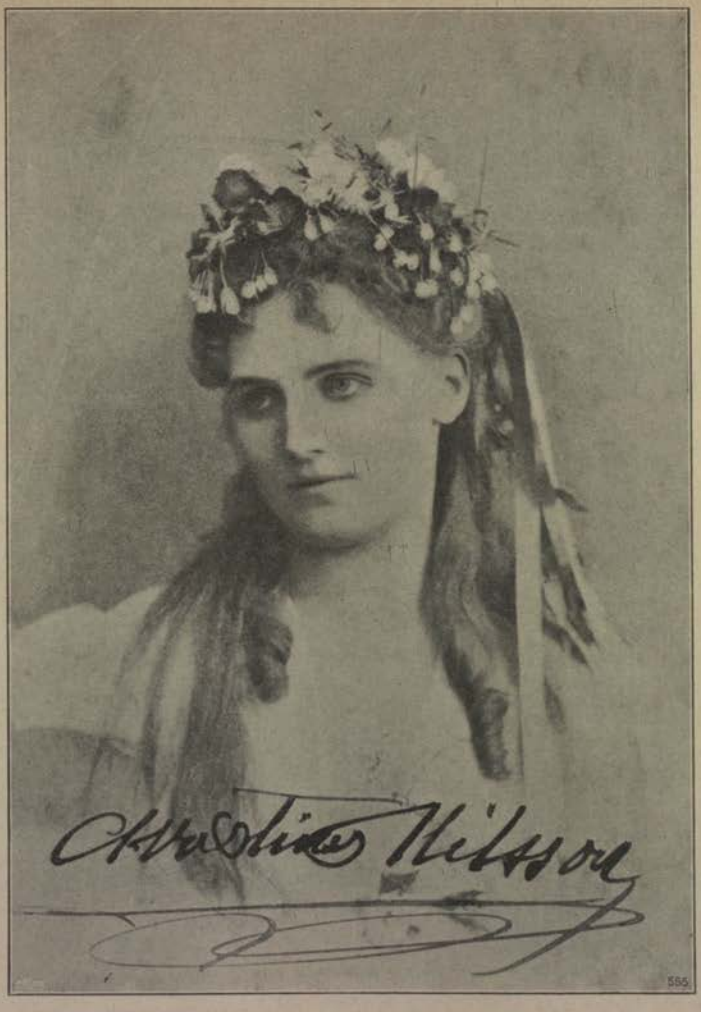
The repertory of present-day Opera is peculiarly ample and varied; it embraces the chief productions of classic and modern foreign masters; of course, Swedish composers have been represented, even though their productions in opera have attained only small dimensions—except so far as concerns *Ivar Hallström* (1826

—1901). Of Swedish operas produced, there should by noted some by *Franz Berwald* ("Estrella di Soria") *A. F. Lindblad* ("The Frondeurs"), *Ivar Hallström* ("The Captive of the Hill", "The Vikings", etc), *Andreas Hallén* ("Harald the Viking", "The Valdemar Treasure", "Walpurgis Mass"), *Wilhelm Stenhammar* ("The Feast on Solhaug", "Tirfing"), *Wilhelm Peterson-Berger* ("Sveagaldrar", "Ran", "Arnljot"), and *Natanael Berg* ("Leila").

During the first period of Swedish opera the following eminent musicians from abroad were appointed as conductors of the Royal orchestra; *F. A. Uttini* (1723—95), *J. M. Kraus* (1756—92), *G. J. Vogler* (1749—1814), *Haeffner* (1759—1833), and *Jean Du Puy* (1771—1822). After *Joh. Fredr. Berwald* (1787—1861), born in Sweden, there followed as conductors *I. G. B. Foroni* (1825—58), an Italian, and *Ignaz Lachner* (1807—95), a German, after whom the office was held by *F. V. L. Norman*, *Jos. Dente* (1838—1905), and *Conrad Nordquist* (born 1840), all Swedes, and by *Richard Henneberg*, who was born in Germany. Among others the following have wielded the baton at the opera. *August Söderman*, *Andreas Hallén*, and *Wilhelm Stenhammar*; and *T. Voghera*, an Italian. At present *Armas Järnefelt* (born in Finland in 1869), court-conductor, and *Adolf Wiklund*, conductor, are the orchestric leaders of the Royal Theatre, as the officical name of the opera now is.

Jenny Lind.

From its earliest days and onwards, the Opera has been fortunate enough to include the highest vocal capacities among its assets; the names of earlier performers are *Elisabet Olin* (1740—1828), *Karl Stenborg* (1752—1813), *Du Puy*, *Julius Günther* (1818—1904), and many others. All those who had the good fortune to hear *Jenny Lind* (1820—87) preserve to this day the memory of her soulful and moving singing. In England's Pantheon a memorial has been placed to her whose name has been for ever inscribed on the scroll of art. Worldwide fame has also been achieved by *Christina Nilsson* (countess de Casa Miranda; born 1843), who is still living; this songstress has appeared only occasionally in



Christina Nilsson as Ophelia.

Stockholm, but in a succession of years she was one of the brightest stars in Paris opera, besides celebrating her triumphs in various European and American cities. Other Swedish ladies who achieved success and renown as vocalists are *Henriette Nissen-Saloman* (1819—79) and, in more recent days, the coloured songstress, *Sigrid Arnoldson* (born 1861), and *Ellen Gulbranson* (born 1863), an interpreter of Wagner and *Signe Rappe* (born 1879). A large number of prominent Swedish artistes have appeared, chiefly in their own country and especially at the Opera at Stockholm, for example, *Louise Michaëli* (1830—75), *Fredrika Stenhammar* (1836—80), *Signe Hebbe* (born 1837), *Mathilda Grabow*, Countess Taube (born 1852), *Selma Ek* (born 1856), *Dina Edling* (born 1854), *Caroline Östberg* (born 1853), *Mathilda Jungstedt* (born 1864), *Valborg Svärdström* (born 1879), *Dagmar Möller* (born 1866), *Karl Oskar Arnoldson* (1830—81), *Fritz Arlberg* (1830—96), *Anders Willman* (1834—98), *Johannes Elmblad* (1853—1910), *Carl Fredrik Lundqvist* (born 1841) and *Arvid Ödmann* (1850—

1914). At the present time, too, Swedish opera may claim a group of grand and beautiful voices, thanks to whose ability the Royal Theatre is able to produce exacting works. We may mention vocalists of both sexes of such calibre as: Mesdames *Julia Claussen* (born 1879), *Davida Hesse-Lilienberg* (born 1877), *Anna Oscàr* (born 1875), and Baroness *Magna Skogman* (born 1874); Messrs *John Forsell* (born 1868), *Carl Lejdström* (born 1872), *Henning Malm* (born 1872), *Martin Oscàr* (born 1879), *Bartold Schweback* (born 1878), *David Stockman* (born 1879), *Åke Wallgren* (born 1873), etc.

As early as the days of Fredric I, who died in 1751, public concerts were given in the hall of the House of the Nobility. There Roman produced works by Händel, the Harmonic Society gave concerts under the leadership of *Zellbell, the Younger* (1719—80), and Haydn's "Creation" was performed for the first time in Sweden in 1801. At present, endeavours are being made in the capital by "The Musical Society" "The New Philharmonic Society", "The People's Concert Union", and other choral societies, by which concerts are arranged with municipal aid for working people and the poorer classes. Symphony concerts are rendered by the Court orchestra, and others have been arranged by *Aug. Meissner* (1833—1903), *Andreas Hallén*, and for ten years by the "Concert Society", and its conductor *Tor Aulin*. During the last quarter of a century regular evenings of chamber music have — even in the provinces — been given by the "Aulin quartette", and for two years by the "Society for Chamber-Music".

It was a long time before musical life won more general favour in the provinces. In Uppsala, where, as in Lund, men's choir singing — so much appreciated in Sweden — has been chiefly cultivated and brought to a high pitch of perfection, music gained greater importance from the middle of last century, thanks to the oratorio performances arranged by *J. A. Josephson*, the University Director of Music. He also directed the concerts given by the University Orchestra and the Philharmonic Society, as have also his successors *Ivar Hedenblad* and *Hugo Alfvén*. Music has of late aquired greater stability in Gothenburg, where, with slight interruptions, from the 'fifties till the end of the century, symphonies and choral concerts have been held under the conductorship of *Fr. Smetana* (1824—94), *Jos. Czapek* (born 1825), *Andreas Hallén*, and *Karl Valentin*. Moreover, ever since 1905 the Gothenburg Orchestral Union yearly arranges a large number of concerts, supported by contributions and a subsidy from the Town Council; these were at first conducted by *H. Hammer* and *O. Morales*, afterwards by *W. Stenhammar* and *T. Aulin*, etc.

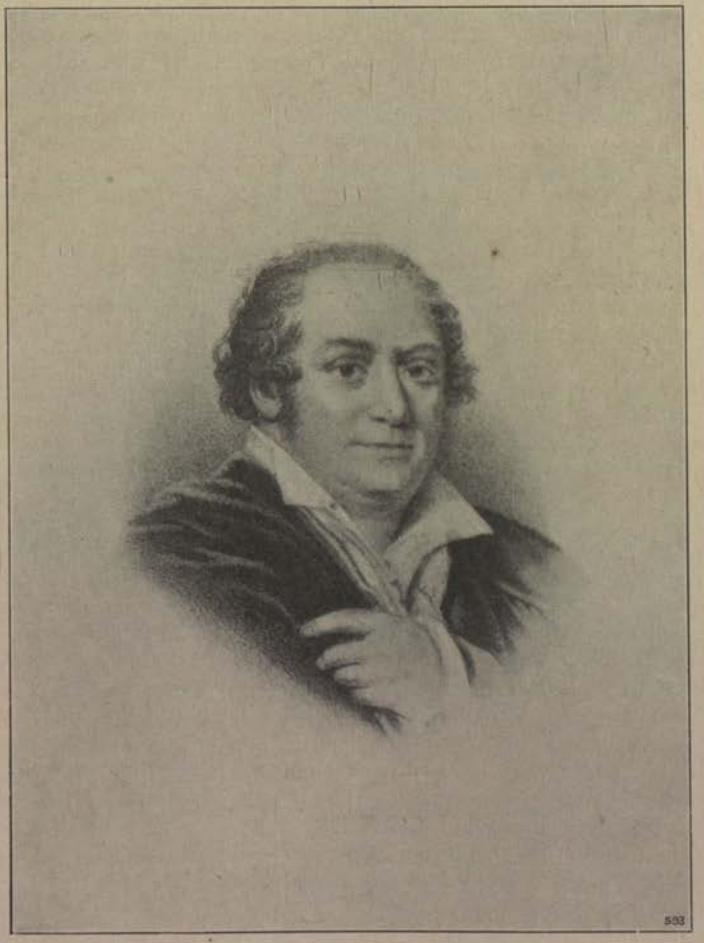
A large number of towns possess choral and musical societies at the present time, and several have quite recently started orchestral societies.

Upon the initiative the Academy of Music, an annual subsidy from the Riksdag has been granted for orchestral societies (three till further notice); each society receives 13 500 kronor, and the object is to provide — inter alia — a large number of "popular concerts" (admission 25 öre) in the town and surrounding neighbourhood, and to provide gratis instrumental instruction for young people of the poorer classes.

The "Royal Swedish Academy of Music", founded in 1771, consists of at the most 80 Swedish, 50 foreign members, and 40 associates; it has the superintendence of the State school for music, the Royal Conservatoire of Music, at which all instruction is gratis; according to statutes now in force it has the duty of "protecting and promoting the musical art from the point of view of aesthetics and culture alike", and especially to "aim at advancing the development of Swedish music".

Dramatic Art.

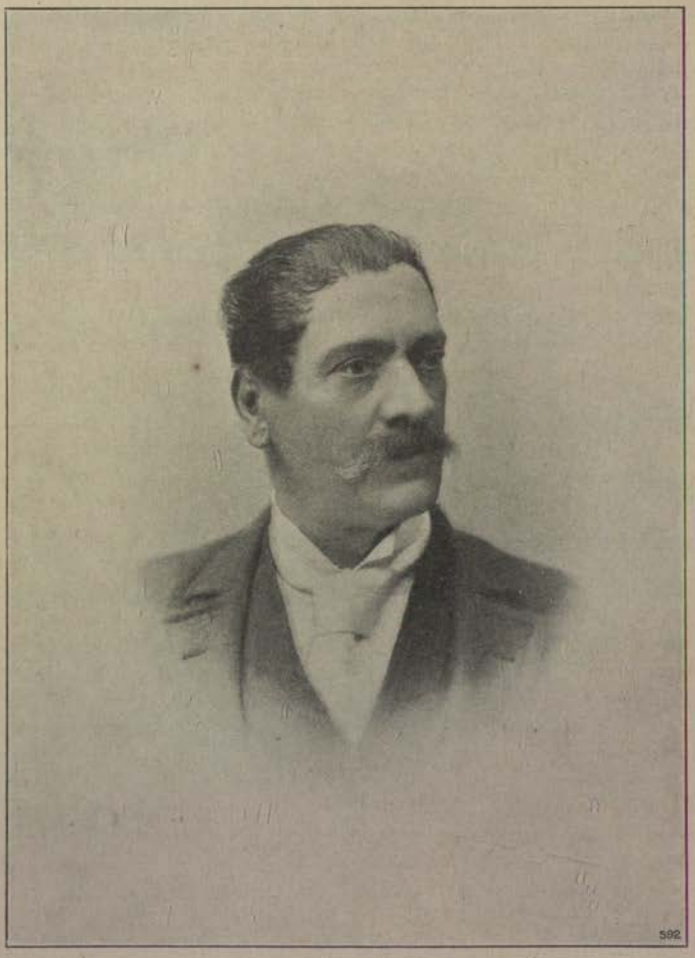
The first definite traces of a native dramatic art in Sweden go back to the 16th and 17th centuries. Even before that, Moralities and Mysteries seem to have been acted here, and then — like the school dramas later on — by schoolboys and students, who also, at times, appeared before the court. But the plays and ballets given at court festivals were more generally performed by foreign actors.



Lars Hjortsberg.

Sweden's first professional actors were some students, who — having left the University of Uppsala — appeared on the stage in that town in 1682 and afterwards moved to Stockholm, where, in 1686, they began to act before the public, from which year Swedish dramatic art may accordingly reckon its origin. These actors continued their activity till 1691 inclusive, and it was then more than forty years before a Swedish theatrical company again made its appearance.

This new troupe was organized by *A. J. v. Höpken* (1712—89) and began its activities in 1737 under the name of the "Royal Swedish Stage", with the French actor *Charles Langlois* for its scenic instructor. The best known among the players of this Swedish stage are: *P. Lindahl* (1712—92), *P. Stenborg* (1719—81), and Mrs *E. Olin* (1740—1828).



G. Fredrikson.

Langlois did not succeed, however, in keeping up the reputation of this stage for any length of time; it degenerated more and more and finally, in 1753, was replaced by a French company which had been called in. It was then *P. Stenborg* who, many years later, with unwearied energy tried to keep native dramatic art alive, and his exertions were crowned with success, when Gustavus III started the Swedish theatre anew; as the first instructor of this theatre he engaged the Frenchman *Monvel*, father of M:lle Mars. Famous actors of that time were *A. de Broen* (1758—1804), *L. Deland* (1772—1823), *G. F. Abergsson* (1775—1852) *Elisabet Fahlgren* (1771—1850), and *Maria Kristina Ruckman* (1769—1847).

Among those who carried on their artistic studies at the school of Monvel was also that most renowned Swedish actor, *L. H. Hjortsberg* (1772—1843), a master in all departments of his art, tragedy in its narrower sense excepted, and he still kept up his activity far into the 19th century.

Between 1840 and 1850, a more lively period of development was entered upon by dramatic art in Sweden. To this result largely contributed the writer, *A. Lindeberg* (1789—1849), who, after several efforts, managed to effect a revocation of the privilege which endowed the Royal Stage with the sole right of acting plays in the capital. In 1842, Lindeberg procured a license to build a new theatre at Kungsträdgården, at which a number of Swedish pieces were afterwards performed. More and more theatres have since been erected. When the old Dramatic Theatre was burned down in 1825 — it was situated in the "Arsenal" at Kungsträdgården — the place for dramatic representations was transferred to the Opera. The dramatic department was removed in 1863 to the theatre built by Lindeberg, in 1842, at Kungsträdgården, which was pulled down in 1907 and replaced with the marble structure erected by Liljekvist, the architect, a costly building adorned in excellent artistic style. It now accommodates the national Swedish stage and was opened in February 1908.

The most important additional theatres erected in Stockholm are the Swedish Theatre, erected in 1875 in Blasieholmsgatan, and the Oscar Theatre in Kungsgatan, 1906.

Among prominent actors of the period in last century when the theatre flourished may here be mentioned: *O. U. Torsslow* (1801—81), his wife *S. F. Torsslow* (1795—1859), *N. V. Almlöf* (1799—1875), his son *K. Almlöf* (1829—99), distinguished players of comic characters, the wife of the latter, *B. Almlöf* (1831—82), the tragedian, *K. G. Dahlqvist* (1807—73), the excellent comic actor, *F. Deland* (1812—94), *Emilie Högqvist* (1812—46), *E. Swartz* (1826—98), above all famous for his Hamlet, *G. Kinmanson* (1822—87), and *K. G. Sundberg* (1817—98), both renowned as primo amorosos, *G. Fredrikson* (born 1832), who above all excelled in French comedy, the representative of romantic heroes, *A. V. J. Elmlund* (1838—1901), the good-natured humorist, *V. Holmqvist* (1842—95), and finally, the splendid tragedienne and character-actress, *Elise Hwasser* (1831—94). The time during which all these were in the heyday of their artistic careers has with good reason been termed the golden age of the Swedish theatre, and they have left behind a void not easy to fill.

Among most recent actors of leading rank ought to be mentioned: *E. Hillberg* (born 1852), *N. Personne* (born 1850), *G. Bergström* (1837—1904), *O. Bœckström* (born 1854), *B. A. Palme* (born 1856), *Aug. Lindberg* (born 1846), *T. Svennberg* (born 1858), *A. Ringvall* (born 1860), *A. de Wahl* (born 1869), Mrs. *J. Håkanson* (born 1853), Mrs *L. Fahlman* (born 1856), Miss *T. Åhlander* (born 1855) Mrs *L. Sandell* (born 1861), and Mrs *G. Lundeqvist* (born 1871), *Ivan Hedqvist* (born 1880), *Nils Arehn* (born 1877), Mrs *Ellen Hartman-Cederström* (born 1860), Mrs *Anna Pettersson-Norrie* (born 1860), Mrs *H. Bosse* (born 1878), Mrs *A. Torsell* (born 1879), Miss *Hilda Borgström* (born 1871), Mrs *Pauline Brunius* (born 1881).

As an energetic theatre-manager can be mentioned *A. Ranft* (born 1858).

For **lyrical dramatic art,** the reader should refer to the article on Music above.

11. SCIENCE.

The summary review here presented of the historical development in Sweden of particular branches of Science, obviously cannot pretend to be in any way exhaustive, but has as its object only to indicate the most distinctive features. As regards investigators and scientific men still pursuing their studies the significance of their work can only be presented imperfectly, inasmuch as a complete appreciation it is necessarily a matter of the future. — As to the order in which the different sciences are taken, it practically corresponds to the old division into faculties adopted at the Swedish universities.

Theology.

The intellectual movement which started into life in Sweden during the Middle Ages was there, as elsewhere, connected with the Church, and the Swedish scholars resorted for intellectual nourishment to foreign universities and ecclesiastical literature. The most eminent Swedish theologian of the times was Canon *Mattias* of Linköping (d. 1350), who compiled voluminous works in exegesis and dogmatic for the benefit of the priests. *St. Bridget* or *Birgitta* (d. 1373) was his pupil. Her "Revelations" (religious writings of practical tendency and great ethical power) were widely disseminated even outside Sweden; they were not merely read for edification: they were also enlisted in the agitation in favour of church reform.

The theological work of the Reformation period is represented primarily by *Olaus Petri* (1493—1552), who interpreted Luther's thoughts to the Swedish public in a simple and independent manner, and his brother *Laurentius Petri* (1499—1573); their work was mainly of a practical ecclesiastical character. The Swedish translation of the Bible (the New Testament in 1526; the whole Bible in 1541) was one of the foremost translations of the time, and has exercised a great influence on the Swedish language and culture.

During the Period of Orthodoxy (17th century) the Lutheran theology of Germany was, on the whole, adhered to. From the beginning of the century the famous bishops, *J. Rudbeckius* (1581—1646), and *L. Paulinus Gothus* (1565—1646) should be named as representatives of the Swedish theology of the period; the latter wrote, among other works, an Ethics ("Ethica Christiana") in 7 volumes. *J. Matthiae* (1592—1670) was the exponent of Syncretism in the middle of the century, *O. Laurelius* (1585—1670) represented Orthodoxy, which gained the day. Theological activity during this period was to a great extent devoted to cathechetics. The Revision of the Bible resulted, owing to the scruples of the orthodox, merely in a new edition (1703) of the old translation.

Among the prominent scholars of the first half of the 18th century were several eminent ecclesiastics, such as the bishops *E. Benzelius the Younger* (1675—1743) and *A. Rydelius* (1671—1738), the first great Swedish thinker. *Sven Bælter's* (1713—60) work or liturgy is a masterpiece of its kind. *A. Nohrborg's* (1725—67) book of homilies is founded on, and imparts, sound dogmatic views. Rationalism brought forth in Sweden no work of any great importance. A place apart is assumed by the writings of *E. Swedenborg* (1688—1772), "*Arcana coelestia*", and others.

The juvenile writings of *E. G. Geijer* (1783—1847), which were influenced by Schelling, contributed to break down the power of Rationalism in Sweden: "On False and True Enlightenment in Relation to Religion" 1811, and others. The leading churchmen from the first decades of the century *J. O. Wallin* (1779—1839), *S. Ödmann* (1750—1829), who did much to promote the education of priests, and others, were mostly adherents of a kind of rational supernaturalism. *M. E. Ahlmann* (1773—1844), a follower of Kant, shed new lustre on the Lund theology. The latter was represented by *H. Reuterdahl* (1795—1870), a disciple of Schleiermacher's, editor of the "Theologisk quartalsskrift" (1828—32, 36—40), afterwards archbishop; further by the exegete *H. M. Melin* (1805—77) and by *E. G. Bring* (1814—84), the Hegelian, who in the "Svensk kyrkotidning" (1855—63) expounded High Church views, influenced by Kliefoth. At Uppsala there prevailed a Low Church Confessionalism: its organ was the "Theologisk tidskrift" (1861—89): among its best exponents were *A. F. Beckman* (1812—94), and *M. Johansson* (1837—1908). Beck in Tübingen influenced the exegete *O. F. Myrberg* (1824—99) and *W. Rudin* (b. 1833). *Viktor Rydberg*, the poet and theologist (1828—95; "The Teaching of the Bible about Christ", 1862) was a disciple of the philosopher Boström. From the same school proceeded *P. Wikner* (1837—88), a Christian personality of great depth and warmth of feeling ("Thoughts and Questions before the Son of Man", 1872). *N. Ignell* (1806—64) started out from Schleiermacher and ended as a radical. *F. Fehr* (1849—95) and *S. A. Fries* (1867—1914) at Stockholm and *P. Eklund* (1846—1911) at Lund were influenced by Ritschl.

The following are at present professors of exegesis: *E. Stave* (b. 1857) and *A. Kolmodin* (b. 1855) at Uppsala, *S. Herner* (b. 1865) and *E. Aurelius* (b. 1874) at Lund. The following are professors of systematic theology: *E. Billing* (b. 1871) and *N. J. Göransson* (b. 1863) at Uppsala; *M. Pfannenstill* (b. 1858) and *G. Aulén* (b. 1879) at Lund; practical theology is represented by *E. M. Rodhe* (b. 1878) at Uppsala and *O. Holmström* (b. 1854) at Lund. *Nathan Söderblom* (b. 1866), now archbishop, was formerly professor of the history of religion at Uppsala and Leipzig. The leading theological papers are "Bibelforskaren", the "Kyrklig tidskrift", and "Kristendomen och vår tid".

Church History in Sweden has been devoted mainly to the national church. Notable church historians of the 17th century were *J. Messenius* (1579—1636) *J. Baazius* (1581—1649), and *Cl. Örnhjälm* (1627—95), of the 18th century *E. Benzelius the Younger*, *A. O. Rhyzelius* (1677—1761), and *O. Celsius the Younger* (1716—94). *H. Reuterdahl's* (1795—1870) "History of the Swedish Church" (the Middle Ages: 5 parts 1838—66) was the foundation of modern Swedish Church History. *L. A. Anjou* (1803—84) has meritoriously treated the 16th and 17th centuries. At present the study of Church History is being carried on with great ardour under Professor *H. Lundström* (b. 1858) at Uppsala and *Hj. Holmquist* (b. 1873) at Lund; the former is (since 1900) the editor of "Kyrkohistorisk årskrift", (the Church History Annual).

Jurisprudence.

Among the monuments of medieval Swedish literature preserved to us at the present day, the most important are undoubtedly the laws or dooms. These embrace *Landskapslagar, Shire Laws*, dating back to times when Sweden was not yet united into one kingdom; *Landslagar, Country Laws*, replacing the former when that consummation was reached; and *Stadslagar, Borough Laws*. In large measure these law-books originated more or less directly from the lawmen's recitations in the "Things" or assemblies of the brief, pregnant pronounce-

ments in which a sound and original sense of justice had found expression; both in matter and form they may be termed popular in the best sense of the word. The theoretical study of law, however, even at that day was pursued by not a few; we know the names of a large number of Swedes who equipped themselves for future work at home by taking a doctor's degree in law abroad, while at Uppsala, from the very foundation of the university, in 1477, lectures on jurisprudence formed an item on the programme of studies prescribed. Moreover, medieval Swedish literature can boast of a philosophico-legal work of high rank by a nameless scholar, entitled: *Om konunga- och hövdingastyrelse, On the Rule of Kings and Chiefs.* It must be regarded as a significant evidence of an early and advanced standard of legal culture having been attained in Sweden, that at the epoch named it was possible in the Country and Borough Laws to produce a systematic code of laws applicable to and in force throughout the entire realm.

For several reasons the Reformation Century did not materially foster the development of Swedish jurisprudence. The following century, on the other hand, the seventeenth, witnessed in various directions a not inconsiderable advance by that science: the study of medieval law was carried on with ardour, and as regards legislative output promising efforts were made in the domain of Common Law and excellent results achieved in certain branches of specialized law, more particulary in Maritime Law. The new tasks that devolved upon Sweden owing to her participation in European politics, and the fresh interests aroused thereby, implied a widening of Swedish jurists' field of vision, while the altered position of the country among the European nations made it more feasible to call in from abroad the services of a number of leading scholars. Apart from *H. Grotius* (1583—1645), a Dutchman who really only served the Swedish State in a diplomatic capacity, *S. v. Pufendorf* (1632—94) was the most eminent jurist of the age. He was appointed professor at the University of Lund, then just founded, 1668, and there wrote and published in 1672 and 1673 his famous works on The Law of Nature and the Law of Nations and on The Duties of a Man and a Citizen. The Law of Nations as a subject of study had at an earlier date been accorded a special chair at the Uppsala University — perhaps the first in Europe. Of greater and more lasting importance, however, for Sweden was the work accomplished in elucidating the various phases of development of Swedish law proper. Of the many men who won considerable merit in this department *J. Loccenius* (1598—1677) should be mentioned first, he having, during half a century of active work in Sweden, not only furnished the legal literature of the country with its first systematic digests, but likewise successfully devoted attention with to an interpretation of our ancient laws. As a historian of law, however, he was surpassed by *J. Stiernhöök* (1596—1675), the most eminent native scholar that Sweden produced in the seventeenth century. His epoch-making work on the early laws of the men of Svealand and of Götaland may to this day be regarded as unsurpassed in its category.

It was the knowledge gained from the investigations made into ancient Swedish law that enabled Sweden to shield itself from the danger — which at one time, owing to the lively political and literary intercourse with abroad, was really imminent — of being inundated with alien principles of law. That explains how it was that the great legislative enterprise, planned and begun in the seventeenth century, and consummated, under the masterly superintendence of *G. Cronhielm* (1664—1737), in the 1734 Code of Laws, applicable to borough and country district alike, could be based upon a wholly Swedish foundation. The work of its compilation had absorbed the energies of the best jurisprudents in the kingdom for a whole half century, but the result was a national masterpiece as regards contents, language and style; its significance for succeeding eras it would

indeed be difficult to exaggerate. The records of the extensive preparatory investigations have been published in recent times under most efficient and able editorship.

It was only natural that the theoretical science of jurisprudence should develop along those national lines that had been laid down for it in the new Code. To enter into the spirit of that Code more and more, to penetrate into early Swedish law with greater thoroughness, those were the aim and object of legal writers in the eighteenth century, especially of the most eminent of them, *D. Nehrman*, or, to give him the titled name conferred upon him, Ehrenstråle (1695—1769), and *M. Calonius* (1737—1817).

During the nineteenth century the study of the history of law was very materially advanced by the monumental edition of the Swedish medieval laws that was the fruit of the extraordinary industry and acumen of *K. J. Schlyter* (1795—1888). Next in importance to that gigantic production there come the extensive drafts of laws that emanated from the Law Committee and from the earlier Law-Drafting Board; over the major part of the labours of those bodies *J. G. Richert* (1784—1864) was the presiding genius. Those drafts of laws, which even though important elements contained in them were derived from abroad nevertheless in a preeminent degree breathe the spirit of Swedish law, can stand comparison, even in a formal respect, with the Code of 1734. That work has subsequently heen pursued more especially by the two bodies: The New Law-Drafting Board and The Law-Drafting Board, which latter was reconstituted in 1902 for the express purpose of having a complete recast made of the said Code, section by section. Swedish jurists, owing to joint labours by representatives of the Scandinavian countries in respect to special departments of legislative work, have been in a position to exercise a certain degree of influence upon the development also of Norwegian and Danish law.

A thorough study of the history of law, a widely drawn comparison between Swedish and foreign legal theory and practice, and a methodical grounding in general law principles have combined in the works of a number of authors on juridical subjects to advance the science effectively. Of those authors there deserve to be mentioned more especially the following, in addition to a number of writers still living: *J. Holmbergsson* (1764—1842), *F. G. G. Schrevelius* (1799—1865), *P. E. Bergfalk* (1798—1890), *S. R. D. K. Olivecrona* (1817—1905), *E. V. Nordling* (1832—98), *J. V. Hagströmer* (1845—1910) and *A. O. Winroth* (1852—1914). A third faculty of law, besides the two in Uppsala and Lund, has been recently established at the Stockholm University, and the total number of professorial chairs in law is at present twenty-two. Of writers in the domain of jurisprudence who are now living there may be enumerated the following: *I. Afzelius* (b. 1848), *N. Alexanderson* (b. 1875), *T. Almén* (b. 1871), *C. G. Bergman* (b. 1881), *C. G. E. Björling* (b. 1870), *B. H. Dahlberg* (b. 1860), *D. Davidson* (b. 1854), *C. Delin* (b. 1865), *B. Ekeberg* (b. 1880), *Th. Engströmer* (b. 1878), *A. Ernberg* (b. 1872), *Hj. L. Hammarskjöld* (b. 1862), *B. Hasselrot* (b. 1862), *E. Kallenberg* (b. 1866), *R. Kleen* (b. 1841), *G. R. Malmgren* (b. 1875), *C. A. Reuterskiöld* (b. 1870), *V. Sjögren* (b. 1866), *N. Stjernberg* (b. 1873), *G. Thulin* (b. 1865), *J. C. W. Thyrén* (b. 1861), *E. Trygger* (b. 1857), *O. Varenius* (b. 1857), *K. G. Westman* (b. 1876), *K. Wicksell* (b. 1851)

It would doubtless be impossible to categorise present-day Swedish jurisprudence, or indeed any large portion of it, as belonging to any particular school either Swedish or foreign. On the other hand, it is beyond dispute that the idealistic philosophy, which, originated or worked up by numbers of Swedish scholars, came to its fullest development at the hands of *Boström*, has exercised during recent decades a very strong influence on the science of law.

Philosophy.

It was with the transplantation, in the 17th century, of Cartesianism onto Swedish soil that the science of philosophy came to be, for the first time, an effective contribution to Swedish culture. This new tendency met with violent opposition from the champions of theological orthodoxy, armed with scholastic Aristotelianism; but it finally carried the day. The champion of Cartesianism, during these days of strife, was *J. Bilberg* (1646—1717). The controversy found expression in academic dissertations, or in theses and disputations founded on them. Practically all discussions of philosophical problems during the 17th and 18th centuries assumed that form; comprehensive and independent investigations were seldom undertaken. The most prominent Swedish philosopher during this period was *A. Rydelius* (1671—1738), who made it his chief effort to mediate between theological orthodoxy and Cartesianism. Later, the philosophy of Leibniz-Wolff had a notable Swedish exponent in *N. Wallerius* (1706—64).

The next period of evolution approximately coincides with the Gustavian Period, when some literary leaders, under preponderating French and English influence, expounded and elaborated the philosophy of enlightenment of that day. Among them may be mentioned *J. H. Kellgren* (1751—95), *K. G. af Leopold* (1756—1829), *T. Thorild* (1759—1808), and *K. A. Ehrensvärd* (1745—1800). With *D. Boëthius* (1751—1810), a thinker of more genuinely scientific calibre, the philosophy of Kant was introduced — under violent opposition, it is true, from the champions of "common sense". Kant's system, in its turn, opened the door to the great idealistic constructive system of Germany, in the principles of Fichte, Schelling, and Hegel. This speculative system was chiefly represented in Sweden by the keen and brilliant *B. Höijer* (1767—1812), whose most famous work, Philosophical Construction, is translated into German. With a certain independence, Höijer lived through and worked up the whole contemporary development of idealistic ideas, originating from Kant, and reproduced it in a form most nearly akin to Fichteanism. In the poems of *P. D. A. Atterbom* (1790—1855) is mirrored the Romanticism of Schelling, although the philosophical thought is not clearly expressed. Finally, immediately preceding our own day, *J. J. Borelius* (1823—1909), devoted a long career as author and academic teacher to the task of placing at the service of the philosophy of his country the fruits of Hegel's speculation.

But the philosophical spirit in Sweden has not only evinced a sensitive receptivity for the results of general evolution in philosophy and retained a certain independence in adopting them; it has also prompted a real *national* philosophy, reflecting in thought the innermost essence and temperament of Swedish culture. Its characteristic features concentrate their efforts on the freedom and comprehensive development of the individual, while, at the same time, a well regulated social order and a pure and living piety are preserved and advanced. Thus the Swedish people combines in its ideal of culture law with liberty, and faith with knowledge. It is to this tendency that the *Swedish personal philosophy* gives a rational expression. Its chief source is in the loving reverence for human freedom and self-determination; for right and duty, and for man's calling to eternal life in truth and righteousness. The national Swedish philosophy is usually called by the name of its real founder, that most independent thinker and independent systematist, *Kristofer Jakob Boström* (1797—1866, professor at Uppsala; his Works, edited by H. Edfeldt, are completed by his Lectures on the Philosophy of Religion and on Ethics, edited and published by S. Ribbing). The philosophy of Boström can be understood and judged only in connection with the evolution of philosophical science, both

foreign and native. It probably had its origin, outwardly, in the ideas of Schelling, while, looked at from an internal point of view and according to its actual bearings, it was prepared by that philosophical tendency in Sweden whose promotors were the Uppsala professors *N. F. Biberg* (1776—1827), *S. Grubbe* (1786—1853), and *E. G. Geijer* (1783—1847). The last mentioned, also and above all the foremost historian of Sweden, adopts in philosophy a special position, somewhat out of touch with that of the ex professo philosophers. His chief philosophical work (Lectures on the History of Man, edited from notes taken by S. Ribbing), expounds the philosophy of history on the foundation of profound metaphysical speculation, of which the personal idea is the central point.

Kristofer Jakob Boström.

The philosophy of Boström is presented in a system which is clear, simple, and grand in its fundamental conception, original in its invention, and consistent, though rather brief, in its execution. Its theory, which is the fundamental part, breaks with the constructive method embraced by the German idealism of Kant, and in a certain contrast with it, seeks the foundation of our world of time and, space in a spiritual, unchangeable, and eternal being, an absolute personality exalted and independent. The sociology and political science of Boström, as well as his ethics and philosophy of religion, i. e. the whole of his practical

philosophy, are rarely rivalled in the reasonable purity of their pervading tone, and in an uncompromising adherence to the fundamental idea of the self-determination of the individual. The philosophical point of view of Boström has had a powerful influence upon the higher spiritual life of Sweden, and continued for a long time to rule well-nigh absolute within his own science.

Owing to various conditions, the national Swedish philosophy long failed to reach results corresponding to the significance of its inherent ideas. Such deep preparatory investigations as must form the basis of a philosophical structure, now far more than hitherto, have been published by Swedish thinkers only to a limited extent. To this we might ascribe the fact that Swedish philosophy has not been able to hold its own so successfully against naturalistic tendencies as might be expected from its scientific resources. In this respect however a change seems to be in progress. Hopes of a stronger influence from philosophy on intellectual life are bound up pre-eminently with the name of Vitalis Norström. Yet, the so-called "Boström" school has achieved an important task in philosophy, and has developed the master's principles in many directions. Among the representatives of this school who have worked in intimate connection with the original form of the Boström system may especially be mentioned the names *S. Ribbing* (1816—99), *C. Y. Sahlin* (b. 1824), *K. Claëson* (1827—59), and *H. Edfeldt* (1836—1909), the two former, professors, the two latter docents at Uppsala university, and the Lund professors, *A. Nyblæus* (1821—99), and *P. J. H. Leander* (1831—1907).

Among these, *Ribbing*, by his learned and original work Plato's Doctrine of Ideas (also in a German translation), and Socratic Studies, which must still be given weight to by foreign philosophy, has revealed the close intellectual kinship of national Swedish philosophy with Greek idealism. *Nyblæus* has traced the development of Swedish philosophy, from the close of the 18th century to Boström inclusive, in an ambitious, but unfortunately unfinished work, written in an elegant and easy style (Philosophical Investigation in Sweden). *Sahlin*, the notable reformer and developer of the Boström philosophy, has with great penetration treated its various parts, and thus endowed it with richness, and has above all bestowed on it systematic demonstration and scientific shape.

Leander, though always a supporter of the Boström system in principle, has endeavoured to overcome its fundamental weakness, by reconstructing the doctrine of ideas.

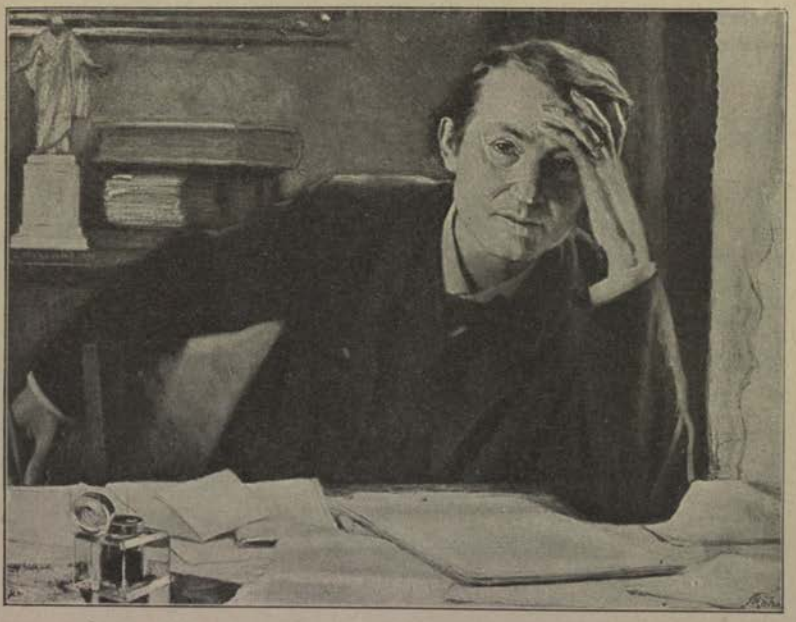
P. Wikner (1837—88), an immediate disciple of Boström and a brilliant thinker and writer, stands apart from these groups, and has followed the special paths of his sensitive and religious mind. By his work, "Egenskapen och närgränsande tankeföremål" (Properties and nearly allied Conceptions), he deviated materially from his master, and the breach was widened still further by later productions.

V. Rydberg (1828—95), as shown by the entire spirit of his all-round literary activity, and especially by the ideal and personal direction shown in his philosophical writings, came near to the Boström tendency. More than anybody else, he has promoted the spread within wide circles of the essential spirit and general comprehension of life in Swedish idealism.

The work of Swedish philosophy within recent years displays, on the whole, the same unwillingness to erect systems and the same spirit of division as the philosophy of other countries. It is true that a large number of thinkers have a common starting-point in the school of Boström, with which they are historically in continuity, but they have in some cases travelled on widely divergent paths. Among these thinkers are *E. O. Burman* (b. 1845) and *K. R. Geijer* (b. 1849), both professors at Uppsala; *L. H. Åberg* (1851—95), docent; prof. *F. v. Schéele* (b. 1853), at present chief inspector of elementary schools in Stockholm;

prof. *V. Norström* (b. 1856) of Gothenburg; prof. *P. E. Liljequist* (b. 1865) of Lund; and prof. *A. Hägerström* (b. 1868), of Uppsala.

The most resolute adherent of these to Boström's principles is *Liljequist*, who critically elaborates and developes them in his academic teaching and in numerous works. *Burman's* most important works deal with the great German transcendental philosophies of Kant, Fichte and Schelling, whom he interprets with penetrating insight. *Geijer's* interest has been directed essentially to empirical psychology and the history of philosophy. *Hägerström* has, with fruitful productiveness, traversed a long range of philosophic propositions, greatly influenced, as he has been, by critical transcendental philosophy, absolute logical idealism, and sociological moral empiricism.



Pontus Wikner.
After a painting by G. von Rosen.

An independent system-formulation first confronts us after Boström in the philosophic works of *Vitalis Norström*. This thinker has made a thoroughly critical revision of the conditions of the philosophy of individuality, and advanced to a point from which he can trace the fundamentals of a scientific exposition of modern philosophy (What is implied by a Modern Position in Philosophy? 1898). Its kernel is a new critical conception of truth, poised upon culture, and deriving its final meaning from the absolute value of life which is experienced from religion. Philosophy is epistemology and the criticism of culture, but not the elucidation of the world (Religion and Thought, 1912).

Prof. *H. Larsson* (b. 1862), of Lund, has tried to prove the importance of intuition in the sphere of knowledge, in several writings that are logically acute and aesthetically elegant. In them he has passed a criticism on Henri Bergson's position and maintained that intuition is not the opposite of intelligence, gifted with a "logic" differing from that of science, but that, on the contrary, it performs the deepest and finest function of intelligence.

A. Herrlin (b. 1870), professor at Lund, has written a quantity of very remarkable psychological and pedagogic dissertations. *S. Alrutz* (b. 1868), docent at Uppsala, has done work in the sphere of mental psychology. Among the younger academic philosophers, we may mention *A. Phalén* (b. 1884) and *M. Jacobsson* (b. 1885), both docents, the former at Uppsala, the latter at Gothenburg. *K. J. A. Vannérus* (b. 1862) and *K. Pira* (b. 1868), have won distinction as writers on philosophy.

Finally, we may recall the Boström Association, founded by *G. J. Keijser* (b. 1844), *Eugène Schwartz* (1847—1914), *K. Pira*, and others. This Society has set itself the task of spreading knowledge of Boström's philosophy and also of developing it.

Philology.

The scientific study of language in Sweden has quite naturally been in the first place directed to Scandinavian tongues, but not only so; the country has produced orientalists, comparative linguists, classical philologists and romanists of repute.

It was the ardent love, in the dawn of Sweden's great era, for Swedish history and cultivation that, combined with the spirit of research of the Renaissance, gave birth to Swedish philology. Its founder may be considered to have been *J. Bureus* (1568—1652), a master of many subjects, especially noted as a prominent runologist and an expert in the language and literature of mediæval Sweden. By pursuing the study of the Swedish language of his own time, he has originated the study of modern Swedish grammar. Among his successors are to be noted *G. Stiernhielm* (1598—1672) "the father of Swedish poetry", and *J. Schefferus* (1621—79), more celebrated as a classical philologist. A new impulse was given to the study of our native tongue in the latter part of the 17th century, when a considerable number of Icelandic manuscripts were collected by order of the Government. This material was worked up especially by *O. Verelius* (1618—82), who, among other things, wrote an Icelandic dictionary, *J. Peringskiöld* (1654—1720), and *J. Hadorph* (1630—93). The results of the examinations of our numerous runic stones by the two last-mentioned scholars are set forth in their great collection entitled "Bautil, alle Svea och Göta rikens runstenar" (Bautil, all the Runic Stones of the Kingdoms of Svecia and Gothia), not published until 1750. Another prominent runologist was *M. Celsius* (1621—79). The cultivation of the Swedish language occupied a warm place in the heart of these scholars, and we possess from their time many grammars and treatises on orthography, e. g., one by *E. Aurivillius* (1643—1702), a work of distinction, *N. Tiällmann* (1652—1718), and *J. Svedberg* (1653—1735). Possibly the most remarkable of all is the sketch of a grammar bearing the title of "En svensk ordeskötsel" (The Culture of Swedish), by *S. Columbus* (1642—79). In this work views are presented which first began to be valued in our days.

Even in those days, Oriental philology was fairly well represented in Sweden, and its foundation was laid now by the introduction of a great number of valuable manuscripts, especially Arabic ones. Notable collectors within this branch were *G. Peringer Lillieblad* (1651—1710), *G. Sparfvenfeldt* (1655—1727), known also as a distinguished Slavonic scholar, *J. Palmroot* (1659—1727), and *M. Eneman* (1676—1714).

With *J. Ihre* (1707—80) philology enters upon a new period, characterized by keener criticism and widened views. Ihre is perhaps the greatest genius in Swedish philology. He placed the work of research on a broader foundation by consulting Gothic as well as other ancient Teutonic languages in his study

of the Scandinavian. The best known of his numerous works is his "Glossarium Sviogothicum", which still holds a prominent place among etymological glossaries. Also our native dialects received his attention. Foremost among dialecticians is to be mentioned *S. Hof* (1703—86), who, among other things, wrote an excellent work on the dialect of West-Gothia. A diligent and influential grammarian and lexicographer is found in *A. Sahlstedt* (1716—76). Among runologists, *O. Celsius* (1670—1756) stands forth as a worthy contemporary of Ihre and Hof in sound scientific criticism and keen observation. To the beginning of the following period we assign the runologist *J. G. Liljegren* (1789—1837).

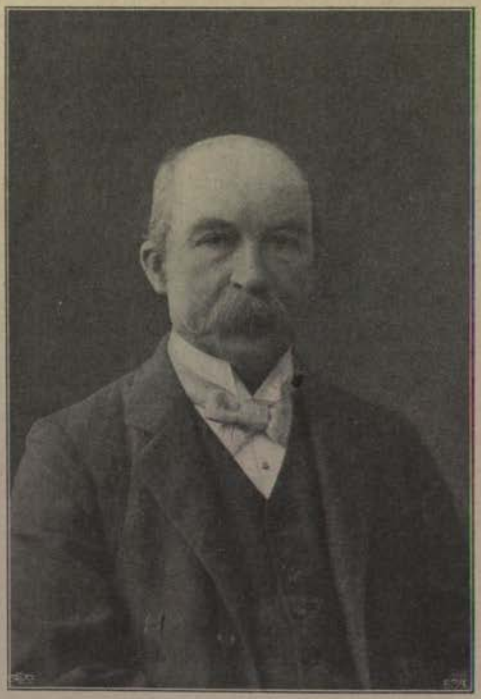
Able orientialists were the above-mentioned *O. Celsius*, *C. Aurivillius* (1717—86), *J. J. Björnståhl* (1731—79), *M. Norberg* (1747—1826), *A. F Sturtzenbecker* (1757—84), *K. M. Agrell* (1764—1840), *J. Berggren* (1790—1868), and *J. D. Åkerblad* (1763—1819), a man of genius, who, on account of his important contribution to the interpretation of the Rosetta stone, has been called "the first egyptologist".

In the middle of the 19th century, the historical and comparative study of languages — the science of Rask, Grimm, and Bopp — pushed its way into Swedish philology and especially into the study of **Scandinavian tongues.** Excellent material had, even before this, been provided in the splendid edition of the old laws of Sweden, by *K. J. Schlyter* (1795—1888), as also in the publications of the Early Swedish Text Society, instituted in 1843, in which *G. E. Klemming* (1823—93) displayed special activity. The man who introduced the historical method of research into Sweden was *J. E. Rydqvist* (1800—77) by his great work "Svenska språkets lagar" (The Laws of the Swedish Language), which is "the first and largest strictly scientific history of our native tongue". *J. E. Rietz* (1815—68) published an extensive Glossary of Swedish Dialects. *K. Säve* (1812—76), the first professor of Northern Languages at the University of Uppsala, left behind him important dialectological collections.

The advance philology has made in Sweden, during the last 40 years, is very considerable. The old school of students in historical grammar, Rydqvist and his contemporaries, had essentially devoted themselves to accidence. A satisfactory knowledge of the various modifications of form is certainly needful for the interpretation of languages so essentially characterized by grammatical inflexion as those of ancient Scandinavia. Such a knowledge was, therefore, the natural outcome of the study of our older literature, and a comparison of documents from various ages immediately provided a survey of how the Scandinavian system of inflexion had developed towards constantly increasing simplicity. In this department, therefore, the older school had elicited the essentials of what we now know, even though this knowledge has been partially rectified and refined by later investigation.

Of what has been tellingly called the body or the physical side of the language there remained for the scholars of the last generation another main department to be scientifically worked up, *viz.* the system of sounds and its history. Just as natural as it was to use the *written* monuments of the language as a starting point for the descriptive and historical analysis of accidence, just as natural it was to use the *spoken* idiom — the standard languages as well as the dialects — as a starting point for the investigation of phonology. This study found a mighty lever in the new-awakened interest in the speech and life of the country-people, which, in the early years of the seventies, led to the formation of the Dialect Societies of Uppsala, Lund, and Helsingfors, which were combinations within the different associations or "nations" of students, with a view to investigating the rustic speech and life of their native places. *K. J. Sundevall* (1801—75) produced a suggestion for phonetic letters in 1856.

Starting from this and with great support from the material and experience collected by the associations aforesaid, *J. A. Lundell* (born 1851) worked out, in 1878, a phonetic alphabet for the dialects of Sweden, in order to exhibit faithfully the sounds of the national language. The next year he commenced the great magazine "Nyare bidrag till kännedomen om de svenska landsmålen och svenskt folklif" (Recent contributions to the knowledge of dialects and folk-life in Sweden), and he still remains the editor of that work. In this publication, unique of its kind, a great quantity of important philological and folkloristic papers have seen the day. The dialect-societies having gradually dwindled down, new organizations were formed in Uppsala, on the initiative of *A. Erdmann* (born 1843), with the intention of gathering linguistic and folkloristic material. These new endeavours in dialect-study were especially intended to furnish a map of the dialects of the country. Rich and new collections have been brought together in this manner, among others from the districts of Upper Sweden, which, though scarcely known in point of language until then, yet have a distinct bearing on its history. The sounds and sound-system of cultivated Swedish have been described in works of high merit by *J. A. Lyttkens* (born 1844), and *F. A. Wulff* (born 1845).



Adolf Noreen.

These studies of the spoken language, combined with the application of the historic and comparative method, have supplied us with our present knowledge of the conditions and the development through the ages of the sound-system of Scandinavian in general and Swedish in particular. Several seniors in the present generation of students have devoted their best efforts to this department, and quite an array of younger powers have also been active in it.

Axel Kock.

M. B. Richert (1837—86) was a teacher with stimulating powers. *L. F. Läffler* (born 1847), a fruitful author also in other spheres of northern philology, has given fundamental contributions to the conception of the history of Teutonic and Scandinavian sounds. *A. Noreen* (born 1854), has proved himself an exceedingly prolific and notable author. By his first endeavours he created an epoch in the history of dialects. Later he published highly valued works in the departments of Old West Scandinavian and Old Swedish grammar as well as general philology. In 1903, after more than ten years of preparation, he began to publish the first comprehensive and complete grammar of modern Swedish, called "Vårt språk" (Our Speech). Researches of special importance in Swedish and general Scandinavian soundhistory have been made by *A. Kock* (born 1851), the editor of "Arkiv för nordisk filologi" (Archives of Scandinavian Philology), the leading journal of its kind to-day. He, more than any one else, has enriched, by his numerous works, our knowledge of the development of the Swedish language. He is collecting considerable parts of his studies on the whole subject in a great work now under publication, entitled "Svensk ljudlära" (History of Swedish Sounds). Valuable studies on word-formation and the loan-words in Swedish, especially on the influence of Low German upon Swedish, have been produced by *F. A. Tamm* (1847—1905), who has bequeathed us an Etymological Swedish Dictionary, unfortunately uncompleted. Among junior students, especially active in this direction we should mention *E. Wadstein* (born 1861), *E. Hellqvist* (born 1864), *K. F. N. Beckman* (born 1868), *O. v. Friesen* (born 1870), *B. Hesselman* (born 1875), *E. Olson* (born 1876), *Hj. Lindroth* (born 1878).

The more psychical sides of the language and, in natural connection with them, philology in a restricted and centralized sense, have, especially of late years, been the object of a steadily increasing interest among Swedish philologists.

In this direction, a pioneer is to be found in *Esaias Tegnér, the Younger* (born 1843), a man of genius, whose works, e. g. "Språkets makt över tanken" (The power of speech upon thought) and "Om genus i svenskan" (On gender in Swedish) are master-pieces of keen and penetrating observation and gift of combination. Since 1893, the Swedish Academy's "Ordbok över svenska språket" (Dictionary of the Swedish Language), has been coming out in Lund. This monumental work, which is being produced in a manner that does honour to Swedish philologists, was initiated by *Th. Wisén* (1835—92). The dictionary work has, for a long sequence of years, been directed by *K. F. Söderwall* (born 1842), who is also renowned for his great "Ordbok över svenska medeltidsspråket" (Dictionary of Mediaeval Swedish), a remarkable witness to his wide knowledge of philology and severe accuracy. *J. G. Ch. Cederschiöld* (born 1849) has published a valuable stylistic work "Om svenskan som skriftspråk" (Swedish as a written language) and a number of philological treatises on Swedish, ancient and modern; besides this he is noted as an editor of Icelandic texts. Another philological author of note is *Th. Hjelmquist* (born 1866). Since 1901, an Uppsala magazine, "Språk och stil" (Language and Style), has been coming out, started and edited by *R. Berg* (born 1876), *B. Hesselman*, and *O. Östergren* (born 1874). This magazine is specially devoted to the style of modern Swedish. *J. Mjöberg* (born 1876) is also a notable worker in this sphere.

Swedish Metrics have been expounded by *A. R. von Krœmer* (1825—1903), *F. A. Wulff, K. F. N. Beckman*, and *B. Risberg* (born 1862).

The study of names in Scandinavia finds Swedish representatives of merit in the following: *M. F. Lundgren* (1852—1903) "Personnamn från medeltiden" (Personal names of the Middle Ages) and *E. H. Lind* (born 1849) "Norsk-isländska dopnamn och fingerade namn från medeltiden" (Baptismal and fictitious names of Norway and Iceland in the Middle Ages), both extremely valuable books of reference. The Committee for examining place-names, appointed by government in 1902, has commenced, in a highly satisfactory way, attempts towards a systematic enquiry into the cultivation and nature names of Sweden. Its member representing philology is *A. Noreen*. Up to now, a complete treatment, from a fiscal and philological point of view, of the place-names of thirteen hundreds of the Älvsborg Län has been published. Among other investigators of names, *E. Hellqvist* deserves especial mention.

The unique wealth of runic stones possessed by Sweden has — as seen above — attracted the attention of scholars from an early date. The Royal Academy of Literature, History, and Antiquities, has contrived an extensive work containing a complete treatment of all the runic inscriptions of Sweden; and the preliminary work, which has been carried on for a long time past, has up to now resulted in important collections and in the publication of the inscriptions of Öland and part of those of Östergötland. Above others *S. M. Söderberg* (1849—1901) and *E. Brate* (born 1857) have been active on this subject.

K. R. Geete (born 1849) has done great service as a bibliographer and publisher of early Swedish texts.

Of **Teutonic** languages outside Scandinavia it is only **Gothic** that has been scientifically treated in Sweden until the most recent times. The incomparably most important source of knowledge of this language — the "Codex Argenteus" in Uppsala — had already attracted to this study earlier scholars, such as Stjernhjelm, Verelius, and Ihre. *A. Uppström* (1806—65) published later on a satisfactory text both of the Codex Argenteus and of other Gothic manuscripts and thus laid a firm foundation for subsequent investigations. During the last generation, other Teutonic languages have been included in the sphere of interest of Swedish scholarship. In English philology, *A. Erdmann, E. Björkman* (born 1872), *E. Ekwall* (born 1877), and *K. F. Sundén* (born 1868) have been active,

the three former in editing texts or dealing with the history of the language, the last also as a linguistic philosopher. *E. Wadstein* and *Hj. Psilander* (born 1869) are noteworthy as scientific authors in the department of German philology.

Comparative philology has nowadays a number of successful students in Sweden, as *E. Tegnér, the Younger,* one of the discoverers of the palatal law of the Aryan languages, *O. A. Danielsson* (born 1852), who has published remarkable researches in the Greek and Italic languages, and who is, at present, occupied with the edition of the "Corpus inscriptionum etruscarum"; *K. F. Johansson* (born 1860), who has been active in a great many branches of his science; *P. Persson* (born 1857), the recent editor of a great work, which will, no doubt, be of fundamental importance to the principles of etymological enquiry: "Beiträge zur indogermanischen Wortforschung "(Contributions to Indo-Germanic Etymology), "Studien zur Lehre von der Wurzelerweiterung und Wurzelvariation" (Studies on the theory of root-extension and root-variation); and *E. Lidén* (born 1862), famous for his investigations in etymology and who has, in recent years, published a series of important works on Armenian grammar.

In the department of **Oriental** languages, the following deserve to be mentioned: *K. J. Tornberg* (1807—77), celebrated as an Arabian numismatist, and as the editor of important original Arabic texts; *O. E. Tullberg* (1802—53; Syrian manuscripts), *E. Tegnér, the Younger,* (comparative phonology); *H. N. Almkvist* (1839—1904; Hamitic languages, rabbinic literature, and vulgar Arabic); and *C. Landberg* (born 1848; Arabic manuscripts and modern dialects). *K. V. Zetterstéen* (born 1866; Arabic and Nubian); *C. A. Moberg* (born 1872; Syrian) and *P. A. Leander* (born 1872; linguistic hebraist). A prominent egyptologist was *K. Piehl* (1853—1904), the founder of the periodical called "Sphinx". Finno-Ugrian philology possesses in *K. B. Wiklund* (born 1868) a versatile and distinguished scholar.

Classical studies have mainly taken a practical pedagogic direction. Of those engaged in real research who have attained to any greater significance, there have consequently been but few until recent times. Among these are to be noticed *Kr. Cavallin* (1831—90), Latin lexicographer, textual critic, *C. M. Zander* (born 1845), Latin textual critic, metrist, and *O. A. Danielsson* (born 1852), who has worked in most branches of Greek philology. During the last decade, classical philology has had reason to congratulate itself on a remarkable advance. A long line of young students of merit have come forward and left weighty contributions to the knowledge of classical cultivation and the classical languages. The following Latin philologists may be mentioned here: — *K. J. V. Lundström* (born 1869), editor of texts and founder and editor of the "Eranos", the only review of classical philology in Sweden; *H. Sjögren* (born 1870), editor of texts and writer on syntax; *C. O. Thulin* (born 1871), editor of texts and an expert in Etruscan culture; *A. W. Ahlberg* (born 1874), prosody and texts; and *H. E. H. Löfstedt* (born 1880), expert in Low Latin. Prominent among Greek philologists are: *S. K. A. Wide* (born 1861), an expert in Greek civilization before the classical era; *C. O. Lagercrantz* (born 1868), comparative philologist and papyrologist; *C. Lindskog* (born 1870), editor of texts; *N. M. P:son Nilsson* (born 1874), historian of religion; *E. Nachmanson* (born 1877), expert in Greek inscriptions; and *G. Rudberg* (born 1880), palaeographer and textual scholar.

Romance philology, since the beginning of the eighties, claims successful and noted students in Sweden, essentially pupils of the French school and especially of Gaston Paris. It is principally Old French that the Swedish Romanists have worked upon, but their activity has by no means been limited to this subject.

V. E. Lidforss (1833—1910) held a particular position in long ago having been eminent for distinguished studies in Spanish. He also published excellent works on Italian philology.

P. A. Geijer (born 1841), is an expert in syntax and has developed a specially important activity as a teacher. *H. von Feilitzen* (1854—87), editor of early French texts, was another pioneer in this department. In this sphere, too, *C. W. Wahlund* (1846—1913) was active, but he has also published bibliographical works. As a philological author in the department of French and Rhaeto-Romanic, *F. G. E. Walberg* (born 1873), is eminent.

In Romance historical grammar there have worked: *J. Vising* (born 1855), especially devoted to questions of syntax and to Anglo-Norman; *G. Rydberg* (born 1861) has published comprehensive works on the general history of the Romance languages and on that of French, and *E. S. Staaff* (born 1867) on the history of Spanish.

Among those few scholars who have devoted themselves to the **Slavonic** tongues may be mentioned *T. Torbiörnsson* (born 1864).

History.

As in other European countries, the writing of history began in Sweden during medieval times with annalistic notes in the monasteries. From the beginning of the 14th century, anonymous chronicles written in verse or prose began to appear. The earliest real national history is "Chronica Gothorum" by *Ericus Olai* (d. 1486), who did not only, like his predecessors, record isolated events, but also sought to show their inherent connection. From the earlier half of the 16th century there exist several works by the last Catholic Archbishop of Sweden, *Johannes Magni* (1488—1544) and his brother *Olaus Magni* (1490—1558), who both died in exile. The former published a strictly ecclesiastical history of the archbishopric of Uppsala, as well as an extremely fanciful history of Sweden. The works of his brother are incomparably more important. He published in Venice a remarkable map of the North, which was several times reprinted; and later, in Rome, a detailed and very valuable ethnographic description of Sweden, provided with numerous illustrations.

The greatest Swedish historian during the 16th century was the reformer *Olaus Petri* (1493—1552). By his fine discernment as to the real value of various sources, as well as by his dispassionate views, he is eminently superior to his predecessors and immediate successors. His "Svenska krönika" (Swedish Chronicle) is the foremost work of early Swedish history. The same century also presents a series of chronicles, partly founded on oral tradition, about the fortunes and official acts of various kings, and a large number of political pamphlets. Much superior to these royal chronicles is "Scondia illustrata" by *Johannes Messenius* (1579—1636), a political adventurer educated abroad by Jesuits who, after his return to Sweden, abjured his Catholic faith and was employed by the government. On account of secret connections with Poland, he was kept imprisoned from 1616 until his death and while in prison wrote his great work, which treats of Swedish history "from the Deluge" down to 1616, and which is of especial value for the 16th century. — King *Gustavus Adolphus II* began a work on his own reign but only completed the introduction, which contains a sketch of the history under his predecessors of the Vasa dynasty.

In the succeeding period, archeological researches, closely connected with the linguistic studies of that day, were carried on with zeal and success. *Johannes Schefferus* (1621—79) published works on philology and literary and political history, which give evidence of wide reading and critical acumen. *Olof Rudbeck* (1630—1702) is a brilliant representative of the wide culture and versatile spirit of the age. He was an anatomist, a botanist, a poet, an engraver; even an archeologist and an historian. In "Atland" he attempted to prove Swedish

culture to be primaeval and the source of the civilization of other countries. This hypothesis, which he presented with real enthusiasm and great scientific method, created considerable attention and was defended by several subsequent writers. — Purely historical study was at this time comparatively retrograde. Yet, two foreigners in the Swedish service, both national historians, deserve mention here, viz., *B. P. von Chemnitz* (1605—78) and *S. von Pufendorf* (1632—94). They wrote lengthy works on the Thirty Years' War, and Pufendorf — the superior of the two — who was known also as a prominent authority on international law, wrote, besides, the history of Charles X, a work provided with excellent copper plates after the drawings of the celebrated *Erik Dahlberg* (1625—1703). A living interest in the collection and publication of original historical documents was, moreover, a characteristic of the time. *J. Hadorph* (1630—93) and *J. Peringskiöld* (1654—1720) are representatives of this movement. Political science began to be studied with success.

O. von Dalin (1708—63) was commissioned by the Estates to prepare "Svea rikes historia" (The History of Sweden), a work which, by its artistic style, greatly contributed towards spreading interest in history. Greater than Dalin, as a scientific writer, was the learned *S. Lagerbring* (1707—87), who described medieval times in Sweden with a critical spirit and a greater use of foreign anthorities than his predecessors. By numerous and detailed investigations he created a taste for special researche and attracted disciples. Interest in collecting original documents continued: as a representative of it may be mentioned *A. A. von Stiernman* (1695—1765). The official historian, *A. Schönberg* (1737—1811), distinguished himself by thorough investigation as well as by the clearness and succinctness of his presentation of facts. — At the end of the century, *J. Hallenberg* (1748—1834) presented, for his day, a masterly picture of the history of Gustavus Adolphus (up to 1626). Memoir-literature was especially popular and abundant in the time of Gustavus III (1771—92) and during the beginning of the 19th century. Local history and the history of culture also received the attention of many authors.

Among the historians of the 19th century, *E. G. Geijer* (1783—1847) is the most distinguished, as he is also, beyond contradiction, one of the greatest and most scientific thinkers among the Swedes of his day. His works (The History of the Swedish People up to 1654, and many others) are masterpieces of critical acumen and pithy presentation. More than all his predecessors he realized the evolution and continuity of history; and with superior genius he produced both social surveys and character sketches. His influence on later historical investigation in Sweden has been equally great as beneficial. — *A. M. Strinnholm* (1786—1862) dealt with the reign of Gustavus Vasa, and published, besides, an interesting and comprehensive work about the earliest history of Sweden. *A. Fryxell* (1795—1881), whose vivid "Berättelser ur Svenska historien" (Episodes from Swedish History) have become really popular reading, awakened throughout wide circles interest in Swedish history and Swedish memories.

The ever-increasing call for the study of archives has made Stockholm, where all the principal archives are preserved more and more the centre of Swedish history-writing. A large number of original documents have been, or are being published, e. g., "Scriptores rerum Suecicarum medii ævi"; Historical documents, and Documents concerning the history of Scandinavia by the Society for publication of manuscripts concerning Scandinavian history: by the National Record Office: "Diplomatarium suecanum medii ævi" (comprising the time 817—1350 and 1401—20), the registry of Gustavus I, the record of the Swedish Council of the Realm, the proceedings of the Swedish Riksdag from 1523 and another series from 1718; by the Foreign Department: the considerable collection of Swedish Treaties; by the Academy of Literature, History, and Antiquities: The

writings and letters of Axel Oxenstierna; by the baronage and nobility: Parliamentary records of the nobility from 1627, etc. Among editors of original documents in the late decades should be mentioned *O. S. Rydberg* (1822—99), the conscientious editor of the remarkable series of Swedish Treaties (see above); *K. G. Styffe* (1817—1908), specialist in the medieval field; *K. Silfverstolpe* (1840—99); *E. Hildebrand* (born 1848), editor (1881—1905) of "Historisk tidskrift" (Historical Review), the foremost among present periodicals devoted to Swedish historical investigation; *P. Sondén* (born 1853); *S. Bergh* (born 1858) and *Th. Westrin* (born 1850).

Erik Gustav Geijer.

As is natural, modern Swedish historical writers have devoted themselves primarily to the history of their own country. A series of important historical works, founded on a comprehensive study of sources, has been prepared by the writers, now deceased: *K. G. Styffe* (later medieval times), *F. F. Carlson* (1811—87; from 1654 to 1706), whose work was continued by his son *Ernst Carlson* (1854—1909; from 1706—10), *K. G. Malmström* (1822—1912; the Period of Liberty) and *K. T. Odhner* (1836—1904; the Periods of 1632—44 and 1772—88). These works all belong to the first rank of modern Swedish historical writing. Important works in different fields have been produced by *H. Forsell* (1843—1901; economic history); *M. Weibull* (1835—1902; History of 17th century); *Elof Tegnér* (1844—1900; The Gustavian Epoch); *H. L. Rydin* (1822—1904) and *O. Alin* (1846—1900) both actively worked on constitutional history and that of Swedish politics and the Swedo-Norwegian Union; *H. Hildebrand* (1842—1913, Middle Ages, History of Civilization); *K. H. Karlsson* (1856—1909,

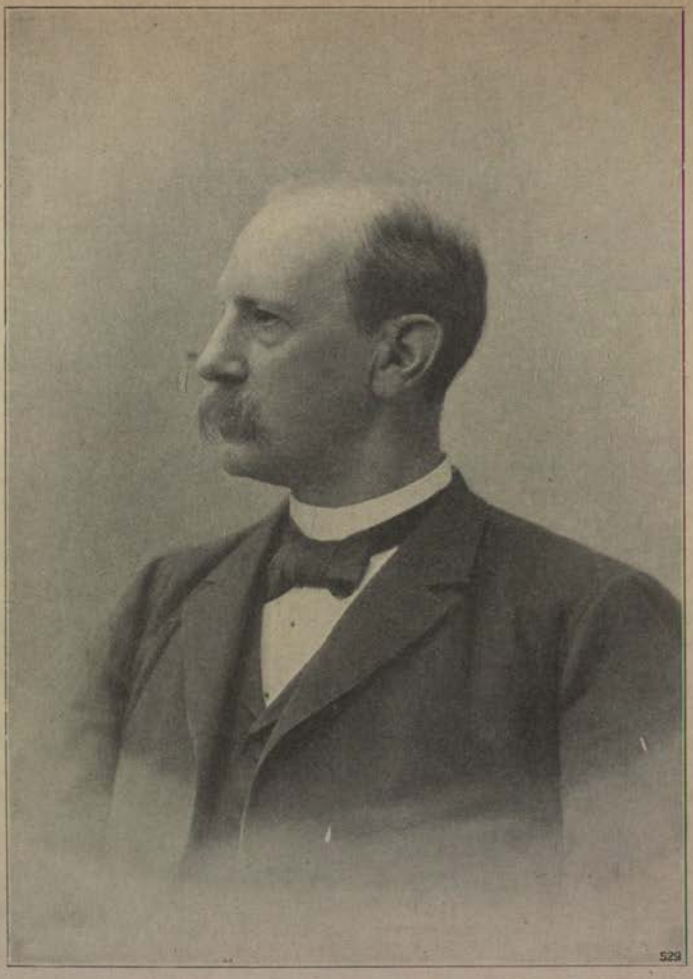
Middle Ages, Genealogy). In the biographical field we should mention *H. Wieselgren* (1835—1906) and *Ellen Fries* (1855—1900), and in the history of warfare, *A. Hammarskjöld* (1848—1908). — At present working in the University of Uppsala is *H. Hjärne* (born 1848; general historian, student of Sclavonic history, a distinguished teacher), *S. Boëthius* (1850; period of Sigismund and Charles IX, history of the French Revolution, political science), *N. Edén* (born 1871; administrative and constitutional history of 16th and 17th centuries), *L. Stavenow* (born 1864; the history of 18th century), at Lund University, *S. Clason* (born 1867; domestic history of 17th century, beginning of 19th), *A. Stille* (born 1863; history of warfare, and of Charles XII), at Stockholm University, *O. Varenius* (born 1857; Swedish constitutional history), at Gothenburg University *H. Almquist* (born 1880, politics of Sweden in Eastern Europe), *R. Kjellén* (born 1864; Swedish politics and constitutional history). In addition should be noted *E. Hildebrand* (history of 16th century, and constitutional history of Sweden), *C. Annerstedt* (born 1839; history of civilization), *G. Björlin* (born 1845; history of warfare), *N. Höjer* (born 1853; constitutional), *N. Wimarson* (born 1872; war and diplomacy in 17th century); *R. Fåhræus* (born 1865; 17th century), *C. Hallendorff* (born 1869; Charles XII), *T. Höjer* (born 1876; Middle Ages) editor of the Historical Review from 1906, *E. Heckscher* (born 1879, economic history of Sweden) and other younger students. Popular scientific writers are found in *O. Sjögren* (born 1844), *E. Svensén* (born 1850), and *C. Grimberg* (born 1875). — The historical Department of the General Staff has for several decades been occupied on an exhaustive account of the wars of Sweden (beginning with the war with Russia 1808—09). Active research-work is being carried on also in the history of the church, economics, law, literature, science, archaeology, and many other departments of historical science.

Besides The Swedish Historical Review, various journals have come into existence, dealing with different departments of historical investigation, e. g., The Magazine of Personal Histories, Magazine of Swedish Church History, Journal of Economics, Political Science Review, The Collector (for Swedish literary history), The Antiquary's Friend, etc.

As a general opinion, it may be maintained that at present Swedish historical writing is in process of rapid and versatile development.

Archeology, Numismatics, Swedish Ethnography, and Folk-lore.

The interest in *Swedish antiquities* and *archeological remains* dates from the 17th century. The **archeology** of that day, whose foremost representative was the talented *Olof Rudbeck the Elder* (1630—1702), was too fantastical and chauvinistic to attain to any certain results. Good copies of runic stones were nevertheless made by *Joh. Bureus* (1568—1652), *Joh. Hadorph* (1630—93). Truly scientific archeological research did not begin in Sweden, as in Denmark, until 1830. The Swedish founders of this science were professor *Sven Nilsson* (1787—1883) at Lund and *B. E. Hildebrand* (1806—84) the King's Custodian of Antiquities, at Stockholm. Nilsson was properly a zoologist, and he introduced into archeology the comparative method of the natural sciences. His description of culture during the stone age is of abiding value. Hildebrand, who was the head of the Historical State Museum for more than 40 years, worked zealously for the increase of those collections of the museum which are now among the most considerable of their kind in Europe. His pupils and successors as State antiquaries, *H. Hildebrand* (1842—1913), the son, and *Oscar Montelius* (born 1843), have both, and especially the latter, contributed in an essential degree towards the development of system and method in prehistoric science. They introduced into archeology the so-called typological method, which aims at showing the gradual metamorphosis in form



Oscar Montelius.

of the archeological finds, their development one out of another, a method which has become of paramount importance in investigation. Hildebrand's work "Bidrag till spännets historia" (Contributions to the History of the Brooch), and Montelius' work "Om tidsbestämning inom bronsåldern med särskildt afseende på Skandinavien" (Determination of Time during the Bronze Age, with special Reference to Scandinavia) are excellent examples of what results may be reached by that method. Both investigators have not only treated in their works of the prehistoric periods of the North, but also extended their researches to other parts of Europe and the Orient. Thus, Montelius has made a profound study of the prehistoric culture of Italy, and published in French and German extensive works on this subject by which be laid a solid foundation for the primeval chronology of the whole of Europe, the various details of which he has expounded in other works. Of fundamental importance for the archeology of migration is the work by *B. Salin* (born 1861), "Die altgermanische Thierornamentik", (Ancient German Zoomorphic Ornamentation). — Among those who have augmented, by scientific

excavations, the prehistoric material of Sweden, should be especially mentioned *Hj. Stolpe* (1841—1905), who has made very extensive investigations (especially at Björkö), with admirable accuracy and acuteness of observation. — Official periodicals are: Antiqvarisk tidskrift (Magazine of Antiquities) and Månadsblad (Monthly Review) and its sequel since 1906 Fornvännen (The Antiquary), published by the Academy of Literature, History, and Antiquities. Lectureships in Scandinavian and Comparative Antiquities have been established since 1897 at Uppsala University, and since 1911 at the Stockholm Högskola (University College).

The initiative as to researches in Swedish **numismatics** was taken by *E. Brenner* (1647—1717) in his celebrated work "Thesaurus nummorum sueogothicorum". Among his successors should be mentioned *K. R. Berch* (1706—77). *B. E. Hildebrand* has published descriptions of Swedish medals, *H. Hildebrand* of Swedish medieval coins, and *A. W. Stiernstedt* (1812—80) of copper coins, etc. Large treasures of foreign silver coins from the 9th to 11th centuries are frequently found in Swedish soil. Indeed, as regards Oriental coins, Sweden is actually the greatest repository, next to Russia. Certain groups of these coins (preserved in the Royal Mintcabinet) have been treated of in comprehensive monographs. Thus *B. E. Hildebrand* has described the Anglo-saxon coins, and *K. J. Tornberg* (1807—77), the Oriental in his work "Numi cufici regii numophylacii Holmiensis". Swedish coinage of the last four centuries is chiefly dealt with in the magazine of the Numismatic Association. *B. E. Hildebrand* has published a large work of engravings of Swedish seals from medieval times.

Dr *A. Hazelius* (1833—1901) has done imperishable service to **Swedish ethnography** (and Scandinavian ethnography in general) by his grand creation, the Northern Museum in Stockholm (as to which see a preceding article). Thanks to his wonderful energy, this museum with its annex, the open-air museum Skansen, has from a modest beginning attained such proportions, that it is at present the foremost of its kind in Europe (the arrangement in the new monumental building has since Hazelius' death been carried out under the guidance of *B. Salin*). Within its precincts is collected a vast material for the study of Swedish folk-life during the last 3 or 4 centuries; the scientific treatment of this material has only just begun (see the publications of the Northern Museum, amongst others, the great work "Svenska folkdräkter" (Swedish Costumes), by *P. G. Wistrand* (1852—1912). Of analogous museums in the provinces the one founded by *G. J:son Karlin* (born 1859) at Lund is the foremost. A very excellent monograph on Lappland and the Lapps has been prepared by *G. v. Düben* (1822—92), and another by *Johan Turi* a Lapp (published 1910).

Folk-lore is quite a young science in Sweden. As a classical work on this topic may be mentioned "Värend och virdarne" (Värend and its inhabitants — Värend being a part of the province of Småland) by *G. O. Hyltén-Cavallius* (1818—89). Also *L. F. Rääf* (1786—1872) and *R. Dybeck* (1811—77) devoted themselves with great interest to this science. In later decades much folk-lore material has been published in the periodical "De svenska landsmålen", issued by *J. A. Lundell* (born 1851), and in the publications of the Northern Museum, especially "Fataburen", since 1906. *E. Hammarstedt* (born 1861), Custodian of the Northern Museum, has written voluminous works on folk-lore. Lectureships in Swedish Popular Customs or Antiquities (illustrating the life of the people) have recently been founded at the Universities of Uppsala and Lund. The collection of such material has received a new impetus by the systematic investigations of the Swedish dialects undertaken by university teachers and students.

History of Literature.

The history of literature in Sweden is, as in other countries, a comparatively young branch of learning, and its development has passed through much the same stages as in other countries.

It began as a branch of philological bibliography. The oldest Swedish work on the subject is *J. Schefferus'* (1621—79) "Svecia Litterata" (Swedish Literature), 1680, a list of books excellent for its time, and this was followed by a number of other bibliographies some of which still exist in manuscript. During this first period people were almost exclusively interested in the history of learning, and it was very common for a person to treat the literature of a particular town or province. Most of these works, however, are merely chaotic collections of notices, destitute alike of any historical or esthetic value.

Under the influence of the French *éloges* a new start, introduced by *O. von Dalin* (1708—63), was made in the 18th century. Learned notices fell into contempt, and the chief stress was laid on an eloquent presentation, which culminated in bombastic and empty panegyric.

With the advent of the Neo-Romantic school the history of literature in Sweden assumed, as elsewhere, a learned shape. The Neo-Romanticists were more erudite, and held broader views than the old academicians, and they were, for that reason, undeniably better fitted to do justice to past ages. But at the beginning of that century all learning was dependent on philosophy, and, in consequence of this, the history of literature now became a branch of philosophy, after having previously been philological. The history of literature and art were now merely considered as applied esthetics. This tendency was introduced by the pioneering work of *L. Hammarskjöld* (1785—1827), Swedish Literature (1818), which, however, is now old-fashioned. On the other hand, a work which has still a scientific value, is the clever and delightful Swedish Seers and Bards (1841—55) by *P. D. A. Atterbom* (1790—1855), a chronological series of portraits of Swedish poets, delineated with a psychological delicacy and noble breadth of view that reminds one of Sainte-Beuve. To this school still belongs in part *G. Ljunggren* (1823—1905), from whose hand we possess a fine esthetic examination of Bellman's poetry, but he has also laid the foundations of a broader and more comprehensive method in his history of the Swedish drama up to 1665, and in an extensive and scholarly history of Swedish poetry from the death of Gustavus III down to the twenties.

He thus formed a link of transition to a new tendency which manifested itself among later historians of literature, partly under the influence of Taine and Brandes. For them literary history is no longer esthetic or philological, but a branch of history, and the history of Swedish literature is conceived by them as the history of Swedish culture, so far as this falls within the domain of literature. The chief weight is therefore laid on showing how literature itself reflects the humour of the people, the period itself, and the peculiar individuality of an author. This view is held more particularly by the disciples of *C. R. Nyblom* (1832—1907) among whom is noticeable *H. Schück* (born 1855) Professor in Uppsala, *K. Warburg* (born 1852), Professor at the Private University of Stockholm and *O. Levertin* (1862—1906) late Professor there. Besides other works of profound learning Schück has published the first volume of an extensive History of Swedish Literature, and has, together with Warburg, written the first volume of a less comprehensive sketch of the same subject down to the most recent times. Warburg has enriched scientific literature with several interesting monographs, and Levertin wrote, among other works, a series of poet-

ical and soulful delineations of the days of Gustavus III. *Nils Erdmann* (born 1860) has also published monographs.

Among other authors the following may be noticed: *C. D. af Wirsén* (1842—1912), Secretary of the Swedish Academy for a spell of years, whose monographs are characterized by poetic feeling and sound scholarship, *E. Wrangel* (born 1863), Professor at Lund, *O. Sylwan* (born 1864), Professor at Gothenburg, *Richard Steffen* (born 1862), rector at Visby, *Martin Lamm* (born 1880) and *Erik Anton Blanck* (born 1881), lecturer at Uppsala, *Fredrik Vetterlund* (born 1865) and *Ruben Berg* (born 1876), lecturers at Stockholm Private University, *Johan Mortensen* (born 1864), *Hilma Borelius* (born 1869), *Fredrik Böök* (born 1883) and *J. A. Nilsson* (born 1878), lecturers at Lund. Several of these authors endeavour to combine the historical point of view with the aesthetic and philosophic.

History of Art.[1]

The history of art is a young science in Sweden. It was Neo-Romanticism in the beginning of the 19th century that awakened a feeling for the art of past generations. *L. Hammarskjöld* (1785—1827) printed in 1817 his "Lectures on the History of the Fine Arts" which he delivered in 1815. The first investigator of Swedish mediaeval art was *K. G. Brunius* (1792—1869) professor of Greek and architecture, who published, in 1836 and since, a series of books on ancient churches and other historic buildings of Sweden. *F. Boije* (1773—1857) published in 1833 a dictionary of painters, in 1848 *K. J. Lénström* (1811—93) issued a little text-book on "The History of the Fine Arts", and from 1855—62 *Aug. Sohlman* (1824—74) "Treatises and Essays on the Culture and Art History". *K. G. Estlander* (1834—1910), a Finn, published at Stockholm in 1867 "The History of the Fine Arts from the end of the 18th century", and *L. Dietrichson* (born 1834), had completed in 1874, and published in 1879, also at Stockholm, "The history of the Fine Arts". *Fr. Sander* (1828—1900), published from 1872 to 76 "The National Museum, Contributions to the History of the Picture Gallery", *Kr. Eichhorn* (1837—89), — an indefatigable student and collector of material in all that affects activity in Swedish art — published "Swedish Studies" in 3 parts, 1869, -72, and -81, and wrote "Swedish Architectural Art", a sequel to the translation of Lübke's architectural history, 1871. In this period fall studies by *C. R. Nyblom* (1832—1907), in aesthetics and historical art, — his little monograph on Sergel came out in 1877; and "Roman Emperors in Marble", with other essays by *Viktor Rydberg* (1828—95), who worked, like Sohlman, Dietrichson, and Nyblom before him, as a lecturer on art history.

The last generation claims *G. Upmark* (1844—1900), head of the National Museum from 1880 to 1900, author of studies in ancient Swedish art ("Selected writings" 1901), and of the very celebrated, nay epoch-making, work, "Swedish Architecture from 1530 to 1760", published in German 1897—1900, and in Swedish in 1904; *A. G. Göthe* (born 1846), who has produced an elaborate work on Sergel in 1898, and won credit for the extremely thorough descriptive catalogues of the pictures in the National Museum. *L. Looström* (born 1848, and head of the National Museum since 1900), who published in 1879 a monograph of the painter O. J. Södermark, and afterwards wrote, in 1887, a history of the Academy of Arts during the first century of its existence, i. e., 1735 to 1835, and treated of subjects in the history and industries of art. *J. Böttiger* (born 1853), who wrote among other things in 1889 a scholarly work on the earlier

[1] The original Swedish titles of cited works are, for convenience's sake, given in English *translation* only.

architectural history of Drottningholm, on "The Swedish State collection of Tapestries" from 1894 to 98, and in 1910, "Philipp Hainhofer und der Kunstschrank of Gustav Adolfs". "Essays on Art History" appeared in 1913. *O. Granberg* (born 1858), a specialist in Dutch art, author of studies on "Pieter de Molijn de Oude", and afterwards, *interalia*, of Queen Kristina's collection of pictures, and its origination from the Royal Chamber of Art in Prague, and of catalogues describing foreign paintings in private Swedish collections.

In addition to these students, who all hold or have held appointments at the National Museum, we must name *K. Warburg* (born 1852), who besides other works wrote a book on Hedlinger in 1890; *G. Nordensvan* (born 1855), who described the art of the 19th century in Sweden, "The Art and Artists of Sweden in the 19th century", (1892), a more compendious book on the same subject in 1904 (also published in German); foreign art of the same period, "History of the Fine Arts of the 19th century" (1900) and who recently published, in 1911—12, "A General History of Art"; *O. Levertin* (1862—1906), who alongside of his studies in the history of literature devoted his penetration to the art of the 17th and 18th centuries (Callot, Art Doctrine of the French Classical School, the links uniting French and Swedish painting in the 18th century, analysed in the book on Lafrensen junior, 1899) and *C. Laurin* (born 1868), who published in 1900 a condensed "History of Art", and in 1908, "Humorous pictures and their History in Art", besides the instructive illustrated work "Picture-book of the History of Culture", 1905.

The 20th century has brought in its train stirring activity in this sphere. Several works which fall under this era are named below. Early Swedish art begins eagerly to be investigated, and its connection with foreign art currents is brought to light. On mediaeval art in Sweden *H. Hildebrand* (1842—1913), wrote as early as 1875 "Church Art during the Middle Ages in Sweden" (revised edition, 1907).

A circle of junior students have made first hand researches into the Swedish churches in the Middle Ages, and new and remarkable results of their studies are constantly appearing. Larger works in this sphere are the "Fortified Circular Churches of Scandinavia", by *H. Frölén* (born 1865) 1911, "Die Kirchen Gottlands", by *J. Roosval* (born 1879), and "The Building Art of the Cistercians", by *S. Curman* (born 1879), the first part being issued in 1912. Smaller compendiums are "Romanesque Small Churches in the Baltic provinces" by *R. Steffen* (born 1862), in 1901, "Mediaeval Church Architecture in Sweden" by *S. Ambrosiani* (born 1874), in 1904. Studies of isolated churches have been made by *Agi Lindegren* (born 1858), Västerås Cathedral, 1898, and *E. Ekhoff* (born 1846), St. Clements in Visby, 1912, and more compendious works by *C. M. Kjellberg*, (Uppsala Cathedral, 1903), *A. Romdahl* (born 1880), Linköping Cathedral, 1910, *O. Rydbeck* (born 1872), Lund Cathedral, 1911. A comprehensive work, entitled, "Swedish churches, an Inventory of Art History", began to be issued in 1912 by S. Curman and J. Roosval. Among authors of special studies we also notice *E. Wrangel* (born 1863), who wrote of Lund Cathedral, Småland churches, etc., *O. Janse* (born 1867), *A. Lindblom, C. af Ugglas,* etc. *O. Rydbeck,* already mentioned, issued a book on "Mediaeval Frescoes in the Churches of Skåne".

Other students have devoted themselves to art of recent times, for example *A. Hahr* (born 1868), who in 1905 treated of "Art and Artists at the Court of Magnus Gabriel de la Gardie" and from 1907—10 published "Studies in the Renaissance of Johan III", both works illustrating architectural activity in two important epochs — the author had previously written, in 1902, a general history of architecture, and *O. Sirén* (born 1879), who produced studies of Stockholm architecture, with Dutch, French and Italian ancestry, in the seventeenth century ("Old Stockholm Houses" 1912—13); "Stockholmiana" in four parts 1902—05,

by *F. U. Wrangel* (born 1853), contains local rather than historical art studies; a monumental work on the Tessin palace in Stockholm was published by him in 1912. The "Arkitekturminnesföreningen" is publishing, since 1909, "Swedish Architecture", drawings and measurements of ancient buildings. *J. Roosval,* who described in 1903 Flemish altar-pieces in Swedish churches and museums, deals in a study on Burchard Precht, 1905, with decorative sculpture at the beginning of the 18th century. *N. Sjöberg* (1871—1914) has studied Swedish portraiture.

Among more extensive monographs of Swedish artists must be mentioned those concerning C. F. von Breda, 1896, by *F. Sander,* Adelcrantz 1890 and Scholander 1899, by *C. R. Nyblom* (also monographs of Breda in the treatises of the Swedish academy), Per Hörberg by *W. Bergsten* 1904, Per Krafft, senior, 1898 and "David von Krafft and the Ehrenstrahl school" 1900, by *A. Hahr,* Hilleström 1900 and Pilo 1902 and —1907 by *O. Sirén,* Wickenberg 1901, by *J. Kruse* (born 1865), Wahlbom 1901 and E. Josephson 1910—12 by *K. Wåhlin* (born 1861), Marcus Larsson 1907—08 and Fagerlin 1910 by *A. Gauffin* (born 1877), Alfred Wahlberg 1909 by *J. K. Janzon* (1853—1910), Karl Milles 1913 by *C. Köper.*

There are compendious monographs on Ehrenstrahl by *A. Hahr,* Gustav Lundberg and Roslin by *O. Levertin,* Malmström and Höckert by *H. Wieselgren,* C. Larsson by *G. Nordensvan* and *J. Kruse,* Zorn, Liljefors, Bergh and Nordström by *T. Hedberg* (born 1862), Hasselberg by *A. Romdahl,* Josephson by *G. Pauli* (born 1855).

Among more extensive Swedish monographs on foreign masters must be mentioned these by *O. Sirén:* "Don Lorenzo Monaco" 1905 (in German), "Giotto" 1906, "Giottino" 1908, "Liondardo da Vinci" 1911, and "Dessins et tableaux de la renaissance Italienne dans les collections de Suède" 1902, and "Studies in Florentine Renaissance Sculpture" 1909; by *J. Kruse* "Rembrandt" 1907 and "The Rembrandt's Colours" 1912 (German edition 1913); by *O. Granberg* "Allart van Everdingen and his Norwegian Landscapes", 1912; by *H. Brising* "Quinten Massys" 1909, in French.

We must not here forget the studies of antique art which Swedish students have produced; *G. Saloman's* (1821—1902) attempt to describe the Aphrodite of Melos, *A. Hahr's* "Studies in the Classic South", 1904, and *H. Brising's* "Classic Pictures", 1910 (French edition 1913), and "Antique Art in the National Museum", 1912.

Among books published most recently dealing with art, we must further mention *T. Hedberg* "Memories of Travel and Studies in Art", 1905; *R. Bergh* (born 1858), "Of Art and Other Things", 1908; *A. Romdahl* "Art Monologues in the Gothenburg Museum", 1911, and "Carl Larsson as Etcher", 1913; *C. Laurin* "Sweden through the Artist's Eye" and "Stockholm through Artist Eyes", 1912 (both translated into English and other languages); *A. Brunius,* "House and Home" (Modern dwellings and their furnishing), 1912 and "Colour and Form" (on ultra modern art), 1913; and *G. Cederström* "Memories", 1913; and *G. Pauli* "Artist life and about Art", 1913.

A picture-album, called "Svenskt konstgalleri" (from Ehrenstrahl to the present day), was published in 1912 by *J. Roosval.* A history of Swedish art in which several authors collaborated was published in 1913 by him and Romdahl.

Aesthetics.

Swedish investigations of the beautiful during the 18th century are confined almost exclusively to poetry and bear to a high degree the impress of French classicism. A special place is accorded to the treatment of taste, to the distinction between true and false taste, and to the causes of differences in taste

among different people and at different periods. It was thought that the aim of art was to proclaim useful truths in a pleasurable form. Poetry thereby became the handmaid of either morality or knowledge. Nevertheless, even in Sweden the beginnings of a less restricted view of art were noticeable. By the side of the main French classic stream runs a pre-romantic tributary with its sources in English literature. Imagination, not intelligence, began to be regarded as the prime quality of genius.

The philosopher *Anders Rydelius* (1671—1738), in his "Förnuftsövningar" (Exercises of Intelligence) considers poetry to be a part of rhetoric and describes it as "an art for amusing and affecting people by means of language put into verse". A wider view was taken by the poet *Olof Bergklint* (1733—1805). Although he does not advance beyond the "utile dulci" point of view, he nevertheless maintains in an eloquent manner, in his "Tal över skaldekonsten" (Address on the Art of Poetry, 1761), the importance of imagination for the poet. Sweden's best critic during the 18th century is *J. H. Kellgren* (1751—95), who from 1778 was responsible for literary criticism in the "Stockholmsposten". While criticism had formerly been almost entirely of a negative character and had consisted in showing up errors and transgressions of the rules of taste, Kellgren took a profounder view and considered criticism to be an explanation of the beauties of works of art. His "Företal till Fredmans epistlar" (Preface to Fredman's Epistles) is one of the most soulful productions of Swedish criticism. The principal representative of the French classic tendency in Sweden was Kellgren's companion in arms *Karl Gustav af Leopold* (1756—1829) who, in several works and particularly in his "Om Smaken och dess allmänna lagar" (Taste and its General Laws) (1801), discussed poetic theories. Even as late as 1798, the poet *Gustav Fredrik Gyllenborg* (1731—1808) published a rhyming Swedish ars poetica in four cantos: "Försök om skaldekonsten" (Essay on the Art of Poetry). *Tomas Thorild* (1759—1808) is remembered particularly as the precursor of romanticism; his was a pure "Sturm und Drang" nature, rich in ideas and caprices, restless and excitable, without any sense of moderation and proportion. He voiced the claim for the release of genius from the compulsion of rules and for the interpretation of nature in poetry. In his principal work "En kritik över kritiker, med utkast till en lagstiftning i snillets värld" (A Criticism of Critics, with an Outline of Laws in the World of Genius) he attempts to lay down principles for literary criticism. By the side of Thorild stand *Jakob Fredrik Neikter* (1744—1803) and *Karl August Ehrensvärd* (1745—1800) as adherents of a freer view of art. Both are disciples of Montesquieu and attach special importance to the influence of environment on art and poetry. Neikter gave a summarised exposition of his views in the brilliant address which he gave in 1787, on his admission to the Academy of Sciences, on "Orsaken till smakens olikhet, uppkomst och förfall hos olika folkslag" (Causes of the Difference, Origin and Decline of Taste in different Nations). Ehrenswärd is Sweden's first representative of the neo-classic tendency. He propounds his theories on art in a pellucid and spirited style in his two works, "Resa i Italien" (Journey in Italy) and "De fria konsters filosofi" (Philosophy of the Liberal Arts).

The introduction into Sweden in the nineties of the 18th century of the philosophy of Kant undermined to a considerable degree the French classical view of art. To *Benjamin Höijer* (1767—1812) belongs the honour of being the first to transmit to Sweden a knowledge of Kant's aesthetics and of having first applied their principles to actual criticism. Höijer, however, did not confine himself to Kant, but in his later works he was powerfully influenced first by Schelling and afterwards by Hegel and created an aesthetic system of his own, in the spirit of the latter, which in many respects anticipates that elaborated at a much later

date by Hegel himself. *Anders Lidbeck* (1772—1829), the first professor of aesthetics at Lund (appointed 1801) discussed the new aesthetics in a number of dissertations, and attempted to compare their chief result with English empiricism. The study of the aesthetics of Kant and Schiller acquired decisive importance for the poet *Esaias Tegnér* (1786—1846), who acted as lecturer and assistent professor in aesthetics from 1803 to 1812, and it was from this source that he took the inspiration for his own views on art. Another disciple of Kant and Schiller was *Samuel Grubbe* (1786—1853), who, in his lectures on "Det sköna och konstens filosofi" (The Beautiful and the Philosophy of Art), which were published posthumously, treated aesthetic problems with uncommon lucidity.

Swedish romanticists took a keen interest in the aesthetic science. They gave a metaphysical interpretation of the beautiful and regarded it as the supreme revelation of the divine. Shelling exercised a powerful influence on Hammarskjöld, Atterbom, and Geijer. *Lorenzo Hammarskjöld* (1785—1827) appeared as the defiant controversialist of the new school and combated reflective poetry in the pamphlets which he levelled at Schiller, Leopold and Tegnér. He also rendered great service to the history of literature by his "Svenska vitterheten" (Swedish Literature), which was the first work of its kind. *Per Daniel Atterbom* (1790—1855) at an early age entered deeply into aesthetic speculation. A great number of his works — "Fågel Blå" (Blue Bird), "Lycksalighetens ö" (The Isle of Bliss) — are poetry about poetry. In 1835 he became professor of aesthetics at Uppsala and published several discussions of aesthetic principles, such as "Ästhetiska betraktelser" (Aesthetic Reflections) in 1836, and "Ästhetiska begrepp" (Aesthetic Conceptions) in 1837. His delicately executed essays on literature, "Svenska siare och skalder" (Swedish Seers and Bards), are also of great importance. *Erik Gustav Geijer* (1783—1847) has enriched Swedish aesthetic literature with some of its most important dissertations, such as the clever prize essay "Om inbillningsgåvans betydelse för uppfostran" (On the Importance of Imagination in Education), which is a Swedish counterpart to Schiller's "Briefe über die ästhetische Erziehung"; "Inledningen om den gamla nordiska folkvisan" (Introduction to the Old Northern Folk Song); and "Betraktelser i avseende på de nordiska myternas användande i skön konst" (Reflections on the application of Scandinavian Myths to Fine Art). Towards the end of his life Geijer advanced to a more realistic view of poetry. *K. J. L. Almquist* (1793—1866), a curious mixture of romantic mysticism and realism, discussed aesthetic questions in a number of works which bear witness to the brilliant acuteness of his perception. Mention may be made in particular of his essay "Om poesi i sak" (On Matter in Poetry), together with "Den sansade kritiken" (Moderate Criticism), in which the metaphysical interpretation of mental analogies contains a system of aesthetics *in nuce*.

The aesthetics of Hegel have also found prominent representatives in Sweden in the persons of *Bernhard Elis Malmström* (1816—65), professor at Uppsala, and *Gustav Ljunggren* (1823—1905), professor of aesthetics at Lund. The former wrote a number of remarkably lucid essays on aesthetics, such as "Om konstens väsende och betydelse" (The Essence and Significance of art), and "Om det naturskönа" (The naturally beautiful); the latter has left us a complete critical exposition of the principal systems of aesthetics from Kant to Vischer.

Prof. *Karl Rupert Nyblom* (1832—1907) adopted a critical attitude towards speculative aesthétics in his essay "Innehåll och form i konsten" (Substance and Form in Art), and in his work "Skönhetslärans huvudbegrepp" (Fundamental Ideas in the Study of the Beautiful) he attempted to lay the foundations for an empirical system of aesthetics. The poet *Viktor Rydberg* (1828—95) built up an idealistic system of aesthetics on an empirical basis in his lectures "Det

sköna och dess lagar" (The Beautiful and its Laws), perfect in style, but unfortunately not published until after his death.

The flood of positivist ideas which invaded Sweden in the eighties brought with it a new realistic conception of art and poetry. In opposition to the previous, somewhat diluted aesthetic idealism, a demand arose for truth and naturalness in art. The eighties of last century yielded no theoretical contributions of any importance to aesthetic literature. Soon enough a reaction set in against one-sided naturalism. *Ola Hansson* (b. 1860) combated it in his "Materialismen i skönlitteraturen" (Materialism in Polite Literature), and *Verner von Heidenstam* (b. 1859) polemised against it. The latter formulated his aesthetic creed in the essay "Inbillningens logik" (Logic of the Imagination), which forms part of his work "Tankar och teckningar" (Thoughts and Sketches).

Professor *Hans Larsson* (b. 1862) has elucidated the fundamental ideas of aesthetics from the standpoint of his philosophy of intuition in his work "Poesiens logik" (The Logic of Poetry), and professor *Evert Wrangel* (b. 1863) has published the first modern Swedish system of poetics and has discussed numerous artistic problems in his "Estetiska studier" (Aesthetic Studies). *Ellen Key* (b. 1849) has in various works emphasized the social significance of art, and *Richard Bergh* (b. 1858) has with artistic delicacy interpreted the biological significance of art or, broadly speaking, art as life. *E. Petrini* (b. 1856), lecturer in theoretical philosophy at Uppsala, has written an Exposition and Criticism of Zimmermann's doctrine regarding general aesthetic forms, and *J. A. Nilsson* (b. 1878), lecturer in aesthetics at the University of Lund, has published a critical exposition of Guyau's aesthetics and a study on Tegnér's Philosophical and Aesthetic Views.

Pedagogics.

When the Reformation had gained a firm footing in Sweden, a very warm interest in pedagogics gradually began to make itself felt. More especially Bishop *L. Paulinus (Gothus)* (1565—1646) was full of zeal for the education of the young as well as for popular instruction. He published several works connected with these subjects: speeches, catechetical writings, etc. Like the tutor of Gustavus II Adolphus, *J. Skytte* (1577—1645), who also gained renown as an author of educational essays, Paulinus was an adherent of the pedagogical ideas of the Frenchman P. Ramus. An opponent to these men was the ardent champion of the Neo-Aristotelianism, the versatile *J. Rudbeckius* (1581—1646), the greatest Swedish pedagogue of the 17th century. He was most active as educator and teacher at the University, and still more so as Bishop in Västerås, where he founded the first Swedish gymnasium. Classical languages and theology had, up to this time, been almost the exclusive subjects of instruction. Rudbeckius introduced the study of several other subjects, amongst them natural sciences. — Here falls also to be mentioned a Code for the higher schools, very excellent for that time, issued in 1649. A complete system of pedagogics for the schools is there given under the title of "detailed hints for the teachers". It is chiefly the ideas of the pedagogues Vives and Comenius that this Code has tried to express. — During the latter part of the 17th century many of the most eminent churchmen worked with great zeal in propagating the knowledge of reading among the peasantry. Thus, *J. G. Gezelius*, sen. (1615—90), compiled complete schemes of instruction for country and other schools.

Sweden's glorious scientific period, the so-called "Period of Liberty", was conspicuous for the lively interest shown in pedagogics, practical education being more the aim than previously. *E. Eklund* (1712—66) then published an extensive "Manual of Education", and *J. Browallius* (1707—55) issued several pedagogical

writings. The latter, among other things, favoured the use of natural science in the education of the young. In the beginning of the 19th century there appeared one of the noblest men in the history of Swedish Pedagogics, *K. U. Broocman* (1783—1812), a pupil of Pestalozzi, unusually gifted as a teacher and equally active as an author. He published his experience and opinions in his own pedagogic periodical, "Magasin för föräldrar och lärare" (Magazine for Parents and Teachers), the first real periodical of its kind in Sweden.

Anna Sandström.

Among persons eminent in the 19th century as authors on pedagogical matters, should be mentioned *K. A. Agardh* (1785—1859), *E. G. Geijer* (1783—1847), and *A. Fryxell* (1795—1881), well-known also in other fields of Swedish culture. To this period belongs the advent of Swedish Gymnastics, whose creator was *P. H. Ling* (1776—1839). During the same century great interest has been shown in the advancement of popular education, and in the improvement of school instruction by the use of new educational means and the application of new pedagogical principles. *T. Rudenschöld* (1798—1859), *P. A. Siljeström* (1815—92), and *F. F. Carlson* (1811—87) are the greatest reformers

Fridtjuv Berg.

in the field of elementary education. *Anna Sandström* (born 1854), at present the most eminent author in Sweden on educational subjects, has done more for the education of girls than anyone else in the country. She advocates a concrete intuitive instruction; history, geography, and natural science being the chief subjets. In instruction she favours realism, not as opposed to humanism, since she lays great stress on the precedence that should be given the humanistic subjects, but as opposed to formalism, above all formalism in the teaching of languages. Her views are propagated chiefly by "Verdandi", a pedagogic periodical edited by her since 1883. *S. O. I. Almquist* (born 1844), for many years headmaster of one of those State secondary schools, where courses for probationers are arranged, one of Sweden's most original thinkers in this sphere and a versatile writer of textbooks, has, by his special richness in fresh and fruitful suggestions, achieved very important work in introducing methods of rational training and instruction. — The originator of the Swedish pedagogic system of sloyd, *O. Salomon* (1849—1907), calls for mention here. He has as a writer on educational subjects, specially treated the question of manual training and its importance as regards education.

During the portion of the 20th century already elapsed important reforms have been achieved in the province of education. Among these the foremost

place is taken by the re-organization of State secondary schools for boys resolved upon in 1904. The prime movers of this reform are *Karl von Friesen* (1846—1905) and *Ernst Carlson* (1854—1909). The former, as Minister of Ecclesiastical Affairs and Education, introduced the scheme for reform into the Riksdag, while the latter brought forward the private bill which formed the main foundation of the work of reform. Later on Carlson became the first chief of the State Supervisory Board for secondary Education then instituted.

The regulation of private educational establishments supported by the State also belongs to the reforms of this period, especially that of higher schools for girls, and also the institution of municipal intermediate schools. The principal place in cooperating to this end is taken by *P. E. Lindström* (born 1863) and, especially as regards the municipal schools, *Fridtjuv Berg* (born 1851), the former as Under-Secretary for Education in the higher Ecclesiastical Department, the latter as member of the Riksdag. Both have later on as successive Ministers of Ecclesiastical Affairs continued to work for the consummation of their projects of reform.

The chief activity of Fridtjuv Berg has been devoted to the advancement of elementary education. His extensive work as a writer on educational subjects has aimed at this end above all. As Minister of Ecclesiastical Affairs he brought before the Riksdag very important schemes for the reform of elementary schools. These proposals later on were carried through in essentials.

Professorships in Pedagogy have been established at the Universities of Uppsala and Lund in recent years: at the former *B. H. R. Hammer* (born 1877), and at the latter *P. A. S. Herrlin* (born 1870) are the first occupants of their respective chairs.

Besides those already mentioned, the following persons merit to be singled out as active pedagogues or pedagogical writers: *B. Jːson Bergqrist* (born 1860), Chief of the State Supervisory Board for Elementary Education, *T. Moll* (born 1853) Secondary school professor, who, as a member of the State Supervisory board for Secondary Education, worked for better methods of instruction in physics and chemistry and suitable localities for that instruction, *H. Dahlgren* (born 1861), member of the State Supervisory Board for Elementary Education, *Marie Louise Gagner* (born 1868), professor at a training college, censor of biographs, *F. von Schéele* (born 1853), chief inspector of elementary schools in Stockholm, who among other things has been the prime mover in the establishment of modern trade-schools in the capital, *Hjalmar Berg* (born 1859) late elementary school teacher, inspector of manual work, superintendent of the Swedish school-museum in Stockholm, *Hans Larsson* (born 1862), professor in philosophy, lecturer and writer on educational subjects, and *N. G. W. Lagerstedt* (born 1847), late member of the State Supervisory Board for Secondary Education and founder of the Pedagogic Library at Stockholm.

Political Economy and Sociology.

The study of Economics in Sweden has displayed periods very varying in character. During the 17th century there was actually but one author of importance, *Johan Classon Risingh,* (1617—72), Secretary to the Board of Trade and Governor of the colony of New Sweden; his great work, never yet published, ("Tractat om kiöphandelen", A treatise on trade), gives evidence of an independent conception of economic problems united with a thorough intimacy with literature, especially that of Holland and England, ("Itt uttogh om kiöphandelen eller commercierne", An Extract on Trade or Commerce was printed in 1669). The period 1718—72, known in Swedish history as the "Era of Liberty", on

the contrary, is remarkable for a sudden and very vigorous display of intellectual activity in the field of economics, particularly resulting in pamphlets on questions of the day but producing also larger works of a more ambitious character. At first this new literature was purely mercantile; among its exponents in that day we should name: *Anders Bachmanson* (ennobled as *Nordencrantz*) 1697—1772, who wrote "Arcana oeconomiæ et commercii" (The secrets of economics and commerce) in 1730; in advanced life he adopted a somewhat different standpoint; next *Anders Berch* (1711—74) who was the first occupant of the professorial chair in Political Economy, established at Uppsala in 1740 (probably the fourth in Europe) and by means of his "Inledning till allmänna hushållningen" (Introduction into General Economy, 1747) took a lead in turning mercantile policy into a systematic body of doctrine; and finally *J. F. Kryger* (1707—77). Economic policy, too, became decidedly mercantile in spirit. Towards the end of the "Period of Liberty", however, a liberal tendency broke ground, of which the foremost representative was *Anders Chydenius* (1729—1803), a Finnish priest and parliamentarian of genius, who in a series of pamphlets during the Riksdag of 1765—66 condemned the whole economic system then prevalent. He was in most questions more radically individualistic than, e. g., Adam Smith, and may be regarded as the foremost of Swedish writers on economic subjects, owing not only to the independence and consistency of his theories but also by the extraordinary ability with which he presented them. The flourishing literature on economic subjects received a considerable check in Gustavus III's time,(1772—92), but the physiocrats now gained a certain ascendancy on the king's adviser, Count *Karl Fredrik Scheffer* (1715—86), and this in its turn reacted upon industrial policy.

Nor yet did the literature of economics attain such importance in the first half of the 19th century as under the "Period of Liberty". The want of an economic literature was supplied chiefly by translations, first from German, and later from French liberal works on economic subjects. Yet the practical problems of the day elicited works from writers such as "Riksprosten" ("Dean of the Kingdom"), *F. B. von Schwerin* (1764—1834), a leading politician and clergyman; and *M. F. Björnstjerna* (1779—1847), both specialists in credit and finance problems, and, further, the Secretary of State, *K. D. Skogman* (1786—1856), who published in 1845—46 "Anteckningar om rikets ständers bank" (Notes on the Bank of the National Estates), the present Bank of Sweden, the oldest note-issuing bank in the world; and the authors on commercial policy, *Knut Bonde* (1815—71) and *K. M. Rydqvist* (1806—84). Most of these men did *not* belong to the "classical" or liberal school in economics. Semi-mercantile views still survived at the Universities, characteristically coupled with social ideas of a quite modern cast, and particularly under the influence of Swedish philosophers with a historic colouring (Höijer, Biberg, Järta and particularly Geijer). Foremost among University teachers, we must mention Bishop *K. A. Agardh* (1785—1859), who among other things combated the reckless selling-off of Crown forests, and who in his "Försök till en statsekonomisk statistik över Sverige" (Essay in the Statistics of Swedish State Economy, 1852—63) in collaboration with *K. E. Ljungberg* (1820—1910) bequeathed a remarkable work; furthermore the three generations of the Rabenius family, of whom the two first successively for upwards of half a century adorned the professorship in Political Economy at Uppsala (1792—1837); (the most remarkable of the three was the second in order, *L. G. Rabenius*, 1771—1846); finally the juristic historian *P. E. Bergfalk* (1798—1890).

About the middle of the 19th century, liberal economic philosophy definitely asserted itself, chiefly in its French form, in politics represented by the Minister of Finance, *J. A. Gripenstedt* (1813—74). In the field of economic literature,

the most brilliant name is that of *Hans Forssell* (1843—1901), historian and Minister of Finance, unsurpassed in beauty of style and diction; he was the first to devote scientific treatment to Swedish economic history, especially that of the 16th century; and further the historian of economic literature in the "Period of Liberty", and afterwards Governor of the National bank, *J. W. Arnberg* (1832—1900), "Anteckningar om Frihetstidens politiska ekonomi" (Notes on Political Economy in the Period of Liberty), 1868.

Finally in the middle of the eighties the school of social policy forged ahead, in essentials influenced from Germany, concurrently with the rise of social democracy in Sweden, and the new protectionist policy in trade also originating from Germany. The exponents of this new school, especially in social politics, were *Johan Leffler* (1845—1912) and *Axel Raphael* (born 1850), who jointly with others published a handbook of political economy, "Det ekonomiska samhällslivet" (The Economic Life of Society, 1894—1902), and *Pontus Fahlbeck* (born 1850), Professor of the Political Science and Statistics in Lund, who moreover is the founder of university study of statistics in Sweden. Interest in social politics elicited the donation of *V. E. Lorén* (1857—85), who not only financed "Skrifter utgivna av Lorénska stiftelsen" (Studies published by the Lorén Foundation) (1890—99), a series of monographs principally in social politics, in 17 volumes, but also facilitated investigations in the field of economics outside social questions.

Studies in economic subjects have been flourishing during the last 15 years in Sweden, in connection partly with the creation of a special organ for political economy, the "Ekonomisk tidskrift" (Economic Journal, 1899), and partly with the founding of several new professorships in the subject, at Stockholm and Gothenburg Universities, in 1904 and 1903 respectively, and at the Handelshögskolan (commercial university) at Stockholm in 1909. We must rank among political economists now active and attached to Swedish Universities: *David Davidson* (born 1854), professor at Uppsala, editor of the Economic Journal, who has worked primarily on the theoretical side and in the spheres of banking and financial science; *Knut Wicksell* (born 1851), professor at Lund, an adherent of the "Austrian school" in political economy, with mathematical treatment of theoretical problems, and especially concerned with those of the theory of money, public finance, and population: he has issued several works in German; *Gustav Cassel* (born 1866), professor at Stockholm University, has published among other things writings on the theory of price, interest, money, social politics, public finance and railway rates, in English and German; *Gustaf F. Steffen* (see below). *Eli F. Heckscher* (born 1879), professor at the Handelshögskolan, who has dealt with the history of economics, economics of enterprise, commercial policy, etc; *Nils Wohlin* (born 1881), docent at Stockholm University, who has published a series of works in Swedish agrarian history; *Sven Brisman* (born 1881), docent at the Handelshögskolan, who has especially applied himself to monetary problems and banking; *Fritz Brock* (born 1877), docent at Lund, who has addressed himself to the theory of distribution; *Emil Sommarin* (born 1874), docent at Lund, who has published works in Swedish social history.

* * *

That comprehensive social science which is called **Sociology** and aims at laying the theoretical foundations and systematizing the results of all social research, has become a subject of academic study in Sweden through the professorship in political economy and sociology inaugurated at Gothenburg University in 1901. The present holder of that office, *G. F. Steffen* (born 1864), has, besides works on English economic history and on social life in modern England, published

a series of treatises on Social Politics and a General Sociology, 1910—11, in four parts. A prominent place is held among earlier Swedish sociologists by *Gustav Björklund* (1846—1903), notably by his work "Om nationernas sammanväxning" (On the Fusion of Nations).

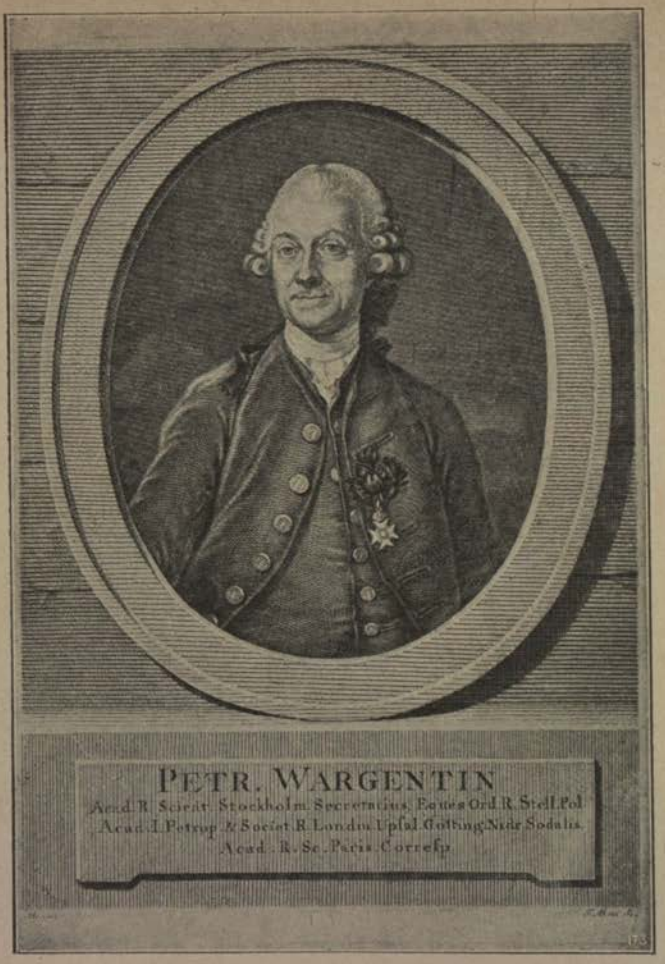
Statistics.

An account has been given of the appearence of official Swedish demographical statistics at the middle of the 18th century (Tables Archive) under the title *Official Statistics* (page 219). As a characterization of the first tables of population it was remarked that they formed an epoch in their own subject, both in Sweden and in the whole world. As they were produced quite from the beginning in a very high state of perfection, and as their series continue without lacunae, it may with justice be said that they occupy a position thoroughly unique. It is, therefore, no wonder that men of mark in the statistical science of Sweden, ever since the beginning of the Tables Archive, were, in the first place, demographical statisticians, by means of whose labours these statistics attained such eminence as to serve as models and set a standard for other countries.

Among the men who were prominent at the period of the establishment of the Tables Archive, we have already singled out (page 220) archbishop *E. Benzelius*, the Younger (1675—1743), whose deanery tables of births and deaths in the diocese of Linköping 1721—30, drawn up from parish registers, may be said to a certain extent to have awakened the idea of establishing the Tables Archive. *P. Elvius* (1710—49), secretary of the Academy of Sciences, may be considered one of the organizers of this work; he published in the Proceedings of the Academy the first scientific articles on the demographical statistics of Sweden. *P. Wargentin* (1717—83), astronomer, the secretary after the early death of Elvius, was one of the moving spirits in creating the Tables Archive. His treatises on the material of tables published in the Proceedings of the Academy of Sciences and translated into German have prominently contributed to the development of the science of demographical statistics. His tables of mortality are especially renowned and mark an epoch for his day (see *G. Enestrom*, P. W. Wargentin und die sogenannte Halley'sche Methode, 1899).

Among the writers of demographical statistics of the 19th century, who are deceased, we recall *F. T. Berg* (1806—87), an esteemed physician and an active member of the Statistical Tables Commission and of the Statistical Committee of 1854, and the first chief of the Central Bureau of Statistics, in which latter capacity he wrote the texts for a large number of statistical publications, and also collaborated (with Hellstenius) in the publication of international statistics, and *J. Hellstenius* (1834—88) whose Studies in Comparative Demography contributed powerfully to make this science popular. We have also to mention *K. Sidenbladh* (1840—1911), who was for a succession of years the head of the section of demographical statistics in the Central Bureau and finally head of the bureau itself, and the noted historian *H. Forssell* (1843—1901), remarkable for his historico-statistical works, founded upon material from the latter half of the 16th century.

Without doubt the pre-eminent scientific names among the Swedish statisticians of recent times are those of Sundbärg and Fahlbeck, both primarily demographists, the latter being also a prominent writer on political science and political economy. *G. Sundbärg* (1857—1914; since 1910 the first professor in statistics at Uppsala University) has by the work published in German in 1907: Chief Results from the Demographical Statistics of Sweden, 1750—1900, given


PETR. WARGENTIN
Acad. R. Scient. Stockholm. Secretarius. Eques Ord. R. Stell. Pol.
Acad. I. Petrop. & Societ. R. Londin. Upsal. Gotting. Nidr. Sodalis.
Acad. R. Sc. Paris. Correfp.

P. Wargentin.

a masterly, concise, and comprehensive elaboration of the official demographical table material and thereby endowed this whole science with impulses of rich fruitfulness. He has developed his interesting observations upon demographical problems not only in this work, but also more fully in others (the Journal of Statistics, texts to official demographical statistics, official investigation on emigration, and moreover in many articles and brochures). His penetrating demographico-psychological studies in the investigation on emigration, which, by the way, fall outside the limits of statistics, give striking proof also of Sundbärg's excellence in style. He has done great service to international statistics by his Apercus statistiques internationaux (the last edition was issued in 1908), one of the best and most used new reference books in the subject. He has also fulfilled the onerous functions of designing and publishing the first edition of the present work, "Sweden", and of executing (in collaboration with W. Flach and H. Juhlin Dannfelt) of the monumental statistical charts on Swedish Agriculture at the beginning of the 20th century, of which Moritz Fraenckel defrayed the cost. *P. Fahlbeck* (born 1850), professor in political science and statistics

at Lund since 1902, introduced the subject into university study in Sweden. His Swedish Nobility (1898—1902, digested in a German edition in 1903) forms his main work on statistics and continues to be of great repute. Among his other works especial note should be taken of the National Wealth of Sweden (1891) and the Statistical Type (1897; see also under Political Economy).

We may also mention the following, in respect of authorship in statistics: *J. Gråberg till Hemsö* (1776—1847), who is one of the earlier writers, been credited with no small contribution towards rousing interest in statistical research in Italy, where he was long domiciled. Among later non-official literature are to be mentioned comprehensive statistical handbooks over Sweden by *K. G. af Forsell* (1783—1848), *K. A. Agardh* (1785—1859), and *C. E. Ljungberg* (1820—1910), the latter two jointly publishing the noted work An Attempt at Economic Statistics of Sweden (1852—63); further statistical handbooks for the world exhibitions of Vienna 1873, Philadelphia 1876, Paris 1878, edited by *E. Sidenbladh* (1836—1914, chief director in the Central Bureau of Statistics 1879—1901). A similar work was published for the Chicago Exhibition of 1893 by *S. A. Löfström* (1847—98).

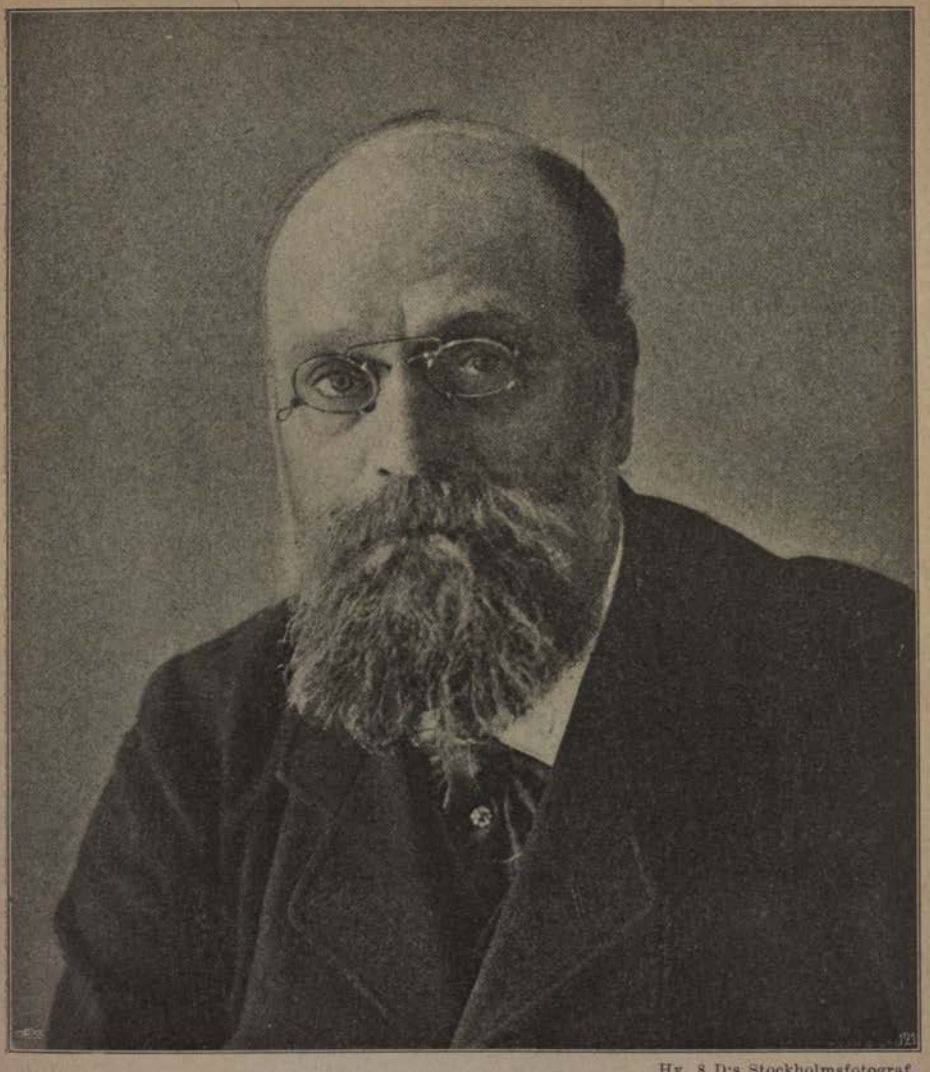
Literature in the subject of statistics has advanced considerably in extent and interest during late years. This is presumably connected with the introduction of statistics as a University subject (by P. Fahlbeck, mentioned above) and the creation of a considerable staff of trained officials in connection with an increasing demand for continuous and trustworthy reports on the social and economic values of the country, and with the call for extensive and special investigations, as the basis for reforms in legislation and administration.

The heads of the main statistical departments — the Central Bureau of Statistics, the Industrial Statistics Section of the Board of Trade, and the Social Board (in its capacity of organ for the extensive collections of social statistics) — are *L. Widell* (born 1870), *K. Key-Åberg* (born 1861), and *H. Elmquist* (born 1871) all of whom, in connection with and also outside their official duties, have exercised a many-sided authorship on the subject.

Among the former or present officers of the Central Bureau are to be mentioned *E. Söderberg* (born 1849; statistics of agriculture, comprising reports on franchise conditions, economic capacity of the communes, etc.); *H. Burström* (born 1868; finance statistics, comprehensive treatises concerning the effects of women's political franchise, general old-age pensions, etc.); *E. Arosenius* (born 1867; demography etc.).

As members on the official staff of the Social Board are to be mentioned *G. Huss* (born 1871), *Theophil Andersson* (born 1869), and *N. Bergsten* (born 1873), who are all managers in this sphere, the last mentioned being chief of the Statistical Section of the Board, and who have treated various phases of social statistics; among the number of eminent authors, attached to this Board, whose main activity has, of course, been concentrated on the purely social sphere (cf. the table of contents and the author-list of this handbook), should here be named, from more statistical point of view, *B. Nyström* (born 1883; work on agricultural labourers, dwellings, cost of living, etc.).

Of the statistical bureaus or the statistical departments of the administrative offices, the most important is, as mentioned above the Industrial Statistics Section of the Board of Trade. Here may be named *Hj. Gullberg* (born 1847, chief of the section 1891—1912), who, besides other duties, has performed duties on committees for many years, where special knowledge of commercial statistics was required, and *I. Flodström* (born 1856), also an official in this department, who has executed his most important work in a series of analyses of finance statistics on a broad basis, and has, moreover, laid down much productive work in different branches of statistical research.



Hv. 8 D:s Stockholmsfotograf.

Gustav Sundbärg.

Hitherto the only municipal bureau in Sweden, the Municipal Bureau of Statistics of Stockholm, was organized by *J. Guinchard* (born 1873), who continues to manage it and is the editor of this edition of "Sweden". The Bureau, to which is entrusted a multitude of different duties has consequently had considerable development and the staff of statisticians has increased correspondingly.

Statistical authors attached to Universities or High Schools, in addition to P. Fahlbeck and the late G. Sundbärg, mentioned above, include *K. A. Edin* (born 1880; acting professor in statistics at Uppsala), who besides other things completed searching investigations on dwellings, *N. Wohlin* (born 1881; docent of statistics at Stockholm University, organizer of the Statistical Bureau of the General Federation of Swedish Employers), who also co-operated in the official

emigration investigation directed by G. Sundbärg (partition of land etc.) and *E. Heckscher* (born 1879; professor in political economy and statistics at the High School of Commerce in Stockholm).

Mathematical statistics have been dealt with by *G. Eneström* (born 1852) and *C. V. L. Charlier* (born 1862, professor in astronomy at Lund).

Certain statistical writers are naturally to be found in the special provinces, in which their chief research falls, and in these cases reference in this volume should, in the first instance, be made to the sections on History, Political Economy, Medicine, etc.

Several private or public institutions with an activity more or less statistical have among their officials persons who have prominently contributed to the development of statistics in Sweden. An enumeration here would lead too far. The above mentioned list of collaborators in the present work, compared with the table of contents, will give a rather comprehensive account in this respect.

Medical Sciences.

Thanks to the quality of the teaching imparted to medical students in Sweden by eminent professors and clinicians, the standard attained by Swedish medical practitioners is a very high one, fully up to that prevalent in the larger civilized countries; medical research too in Sweden has won for itself a well-grounded reputation abroad. In the last few decades, moreover, great liberality has been evinced in regard to hospitals, excellently equipped institutions of that nature having been erected in many parts of Sweden.

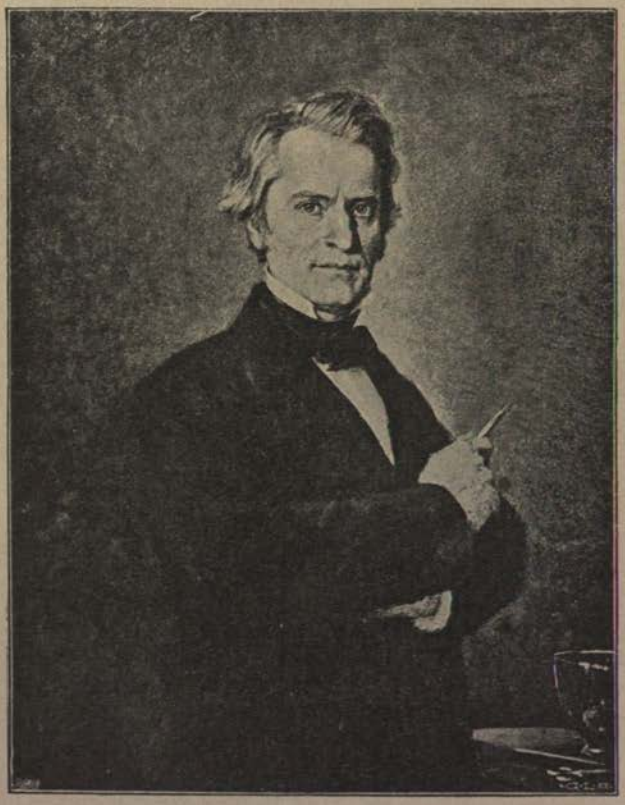
Olof Rudbeck the Elder.

In Sweden, as elsewhere, the study of **Anatomy** has gone hand in hand with that of medical science generally, the basis of the latter being a knowledge of the human body. The first teaching in Anatomy of which any record has come down to us, was that imparted at the beginning of the seventeenth century at a private

medical academy in Uppsala, presided over by *J.* and *P. Rudbeckius*. In 1613 *J. Chesnecopherus* (1581—1635) became professor of "Physiology" at Uppsala, that being the first medical professorship established in Sweden. At the same university another professorship was founded in 1624, and its first holder *J. Franck* (1590—1661) superintended the instruction in Anatomy for a long time subsequently. As yet, however, no hall had been assigned for dissecting purposes, and indeed the prejudice felt against the dissection of the human body was so pronounced, that great obstacles stood in the way of the progress of the science. The man who was the real establisher of the study of Anatomy in Sweden was *Olof Rudbeck* the Elder, (1630—1702). That highly gifted, energetic, and versatile genius, who made himself very famous while still a young man by his discoveries in the department of the chyle and lymphatic-duct system, was the first scientist in Sweden to practice dissection on the human body — in order to allay the aversion of the people at large to the process he conducted it with an elaborate series of solemn rites. *P. Hoffvenius* (1630—82) was a colleague of Rudbeck's at Uppsala, who also taught Anatomy. Of more recent anatomists at Uppsala there may be mentioned: *A. Murray* (1751—1803), distinguished both as a teacher and a scientific writer, and *F. E. Sundevall* (1811—81), who founded the Anatomical Museum there. *E. K. H. Clason* (1829—1912) perfected the Museum and published a number of works on Anatomy. *I. Sandström* (1852—89) discovered the glandula parathyreoidea. *J. A. Hammar* (born 1861) is at the head of the department for Histology and Embryology and has published a large number of works on those branches of Anatomy, more especially on the thymus gland, the lymphatic cells and the organs of the embryo; *J. V. Hultkrantz* (born 1862) and *O. M. Ramström* (born 1861) preside over the instruction given in macroscopic Anatomy; the former has specialized on the joints and on Anthropology, the latter on the nerve system of the abdomen.

In Stockholm from about the end of the seventeenth century onwards teaching in Anatomy was imparted at the so-called *Collegium Medicum*. Of the teachers may be mentioned: *Urban Hjärne* (1641—1724), *L. Roberg* (1664—1742), *Abraham Bäck* (1713—95), *Roland Martin* (1726—88), *Olof af Acrel* (1717—1806), a surgeon, and *A. J. Hagströmer* (1753—1830), during whose period of office the statutes constituting the R. Caroline Medico-Surgical Institute were ratified, in the years 1815 and 1822. In 1824 *Anders Retzius* (1796—1860) was nominated to a professorship of Anatomy and Physiology at the new institution, the appointment, combined with the supervisorship ("Inspector") becoming definite in 1830. Dissecting-room instruction was now organised and a large number of keen and energetic pupils and colleagues assembled around Retzius, so that not only Anatomy but all the branches of Medicine were pursued with renewed zeal and zest. Whereas the prevailing theory at that time was the speculative one of the Natural Philosophy school, the R. Caroline Medico-Surgical Institute became a nursing-ground for the new conception, according to which the essential thing is an exact observation of nature, whereby Medicine too becomes a natural science, being based on Anatomy and Physiology. A. Retzius' teaching ability and zeal had a marked stimulating and inspiring influence on his pupils, and he also won a great reputation in the European scientific world by his published works and discoveries both in microscopic and general Anatomy, especially Craniology. *G. von Düben* (1822—92) devoted special attention to Anthropology. *O. Kr. Lovén* (1835—1904) discovered the organ of taste in mammals, the lymphatic ducts of the ventricle, etc. *A. Key* (1832—1901) devoted himself first to Histology proper, to the organ of taste of batrachians, the structure of the spleen and the kidneys, etc. *G. Retzius* (born 1842) published, in collaboration with Key, a large work on the nervous system, its lymphatic ducts and connective tissue, and subsequently a series of extensive works both on Anatomy,

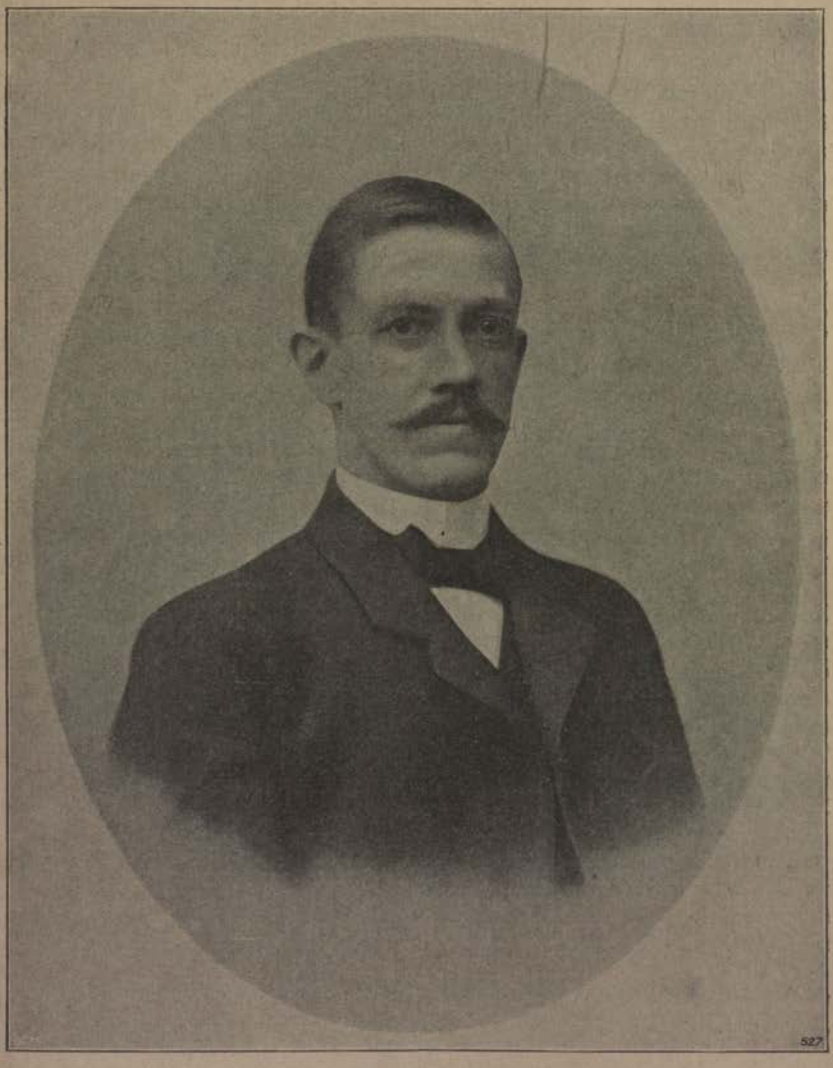
macroscopic and microscopic, and on Anthropology and Ethnography; the anatomical works bear principally upon the brain and the nervous system, the organs of sense (of hearing and taste), the sperms and eggs. *E. Müller* (born 1866) has charge of the instruction in macroscopic Anatomy and has published numerous works on various phases of Anatomy, more especially on the glands, the ventricle and the intestines, the neuroglia, the blood vessels, and the extremity-problem. *E. Holmgren* (born 1866) has published several works on Histology, especially with reference to the structure of the nerve and other cells, and to the more delicate structure of the muscles, evolving in that connection the theory of the trophospongium; his professorship is in Histology.



Anders Retzius.

At Lund a special chair for Anatomy was created in 1783. The position of Anatomy was not, however, a worthy one until the times of *A. H. Florman* (1761—1840), who was very industrious as a scientific writer as well as being a zealous teacher and investigator. Of the anatomists attached to that university who have specially distinguished themselves may be mentioned: *Hj. O. Lindgren* (born 1837), who has published works on the structure of the uterus and the egg, *C. M. Fürst* (born 1854), who has published a large number of works in the various departments of Anatomy, the structure of the sperms and the medullary sheath of the nervefibres, the evolution of the retina, mesculus popliteus and the knee-joint, the development and reduction of the Fibula etc., in addition to which he has devoted great attention to Anthropology (q. v.), and

I. Broman (born 1868), who has published numerous works on embryological and histological subjects, especially on the structure of the sperms and the development of the organs of the fetus; Broman teaches macroscopic Anatomy principally, Fürst Histology.



Allvar Gullstrand.

Physiology, which in Sweden as elsewhere was in earlier times united as a subject of study at the universities with Anatomy (q. v.), had an independent professorship allotted to it first in Uppsala, where in 1864 *Frithiof Holmgren* (1831—97) became professor of the subject and established the first Physiological Laboratory in Sweden. Holmgren is best known for his works on colour-blindness and its importance for navigation and railway traffic, and also for his method of detecting colour-blindness, which is still the one most in use.

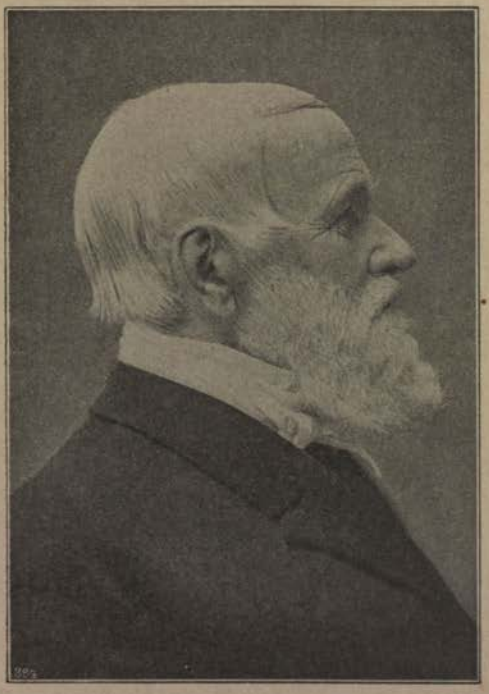
His most important contribution to science was his proof of the current of action of the retina. In 1889 Holmgren started the journal: "Skandinavisches Archiv für Physiologie"; it is published in Leipzig and constitutes an organ for all physiologists in Scandinavia; since Holmgren's death the editing of it has been in the hands of *R. Tigerstedt* of Helsingfors (see below); the 32nd volume is now in course of publication. *Hjalmar Öhrvall* (born 1851), Holmgren's successor, has made his name known by his work on the sense of taste; he has also published other works in the department of sense-physiology, the physiology of the heart, on practice and on fatigue, etc. *G. F. Göthlin* (born 1874) has done most of his work in the department of nerve-physiology, *S. Alrutz* (born 1868) in that of the physiology of the cutaneous senses, *L. Backman* (born 1883) in regard to the physiology of the heart and to the osmotic pressure in lower animals. *Allvar Gullstrand* (born 1862), who studied in Uppsala and Stockholm and was professor of Ophthalmiatrics at Uppsala from 1894 to 1913, earned world-wide renown for his recasting of the theory of the optical image and for his epoch-making works on the dioptrics of the eye. In 1911 he was awarded the Nobel Prize for Physiology; in 1913 a special professorship of Physiological and Physical Optics was established for him at Uppsala.

Kristian Lovén (1835—1904) was the first professor of Physiology at the *Karolinska Institutet* in Stockholm (1874). He made valuable contributions to the discovery of the vaso-dilator nerves, to muscular physiology, etc. His successor, *R. Tigerstedt* (born in Finland 1853), was attached to the Institute for twenty years, but removed to Helsingfors in 1901, taking up work at the university there. His numerous works belong chiefly to the subjects nervous and muscular physiology, and the physiology of the circulation, of the gaseous exchanges and of nourishment. He is also the author of some well-known textbooks of physiology. One of his pupils, *J. E. Johansson* (born 1862), succeeded him in his chair in Stockholm in 1901; he has published works dealing with the physiology of the circulation, gaseous exchanges and metabolism. Other pupils of Tigerstedt's are: *C. G. Santesson* (born 1862), now professor of Pharmacology, whose work has been in the department of muscular physiology, *E. Landergren* (1867—1912), and *E. O. Hultgren* (born 1866), whose work has been in the department of the physiology of nutrition.

In Lund *Magnus Blix* (1849—1904) was the first professor of Physiology, 1885. He is renowned for the discovery he made that we perceive cold, heat, and pressure by means of special nerves, and also for his works on the length and tension of the muscle and the generation of heat in the muscle. His successor, *T. Thunberg* (born 1873) has done most of his work in the department of the physiology of the cutaneous senses and gaseous exchanges. *H. Gertz* (born 1876), one of Blix's pupils, has published works on the physiology of the eye.

In the annals of **Medical Chemistry** in Sweden the most illustrious name is that of *J. J. Berzelius* (1779—1848). Others are: at Uppsala *O. Hammarsten* (born 1841), celebrated as the discoverer of the presence of rennet in the gastric juice of man, as the author of important works on topics belonging to the chemistry of the albumen, the blood, and the digestion, and as the author too of a Textbook of Physiological Chemistry, which has been translated into several foreign languages; *A. T. Almén* (1833—1903) and *C. T. Mörner* (born 1864), who have worked in the domains of biological and pharmaceutical chemistry; and *S. G. Hedin* (born 1859), a former principal of the Jenner Institute in London, who has written valued treatises in which physical chemistry is brought to bear upon physiological problems; — at Stockholm, *K. G. Mosander* (1797—1858), a distinguished metallurgical and pharmaceutical chemist; *N. P. Hamberg* (1815—1902), an energetic investigator in many departments of

medical chemistry and of toxicology; *S. Stenberg* (1824—84), who worked at the solution of a number of problems in practical chemistry; *N. J. Berlin* (1812—91) and *S. Jolin* (born 1852), whose principal works fall within pharmaceutical chemistry or are contributions to the pharmacopœia; *K. A. H. Mörner* (born 1854), who has pursued successful inquiries into the chemistry of certain albuminoid and mucilagenous substances, and also of colouring matters present in the human body; — at Lund, *Ivar Bang*, a Norwegian (born 1869), the author of works on the chemistry of fatty substances, on sugar-formation in the body, etc. All the three medical faculties in Sweden are equipped with chemical laboratories, and the teaching of medical chemistry has attained a higher standard in Sweden than in most other countries.



Magnus Huss.

Pharmacology, which was formerly studied in conjunction with Natural History, and especially Botany, by, for instance, *Urban Hjärne* (1641—1724), *Linnæus* (1707—78), *A. J. Retzius* (1742—1821), *G. Wahlenberg* (1780—1851), *P. F. Wahlberg* (1800—77), and in later times by *O. T. Sandahl* (1829—94) and *R. F. Fristedt* (1832—93), has now, since about 1890, been carried on as a thoroughly modern experimental science; at Stockholm by *C. G. Santesson* (born 1862), who has investigated the effects of sundry poisons; at Uppsala by *M. Elfstrand* (born 1859), who besides other works has published a textbook of Pharmacology; at Lund by *E. Overton*, an Englishman (born 1865), who is noted for his works on the theory of narcosis, on the application of physical chemistry to physiology and pharmaco-dynamics, etc. — At each of the three medical schools in Sweden there is a special pharmacological laboratory.

The **pathological** systems, based but partly upon exact research, that were in vogue in the seventeenth and eigthteenth centuries and at the beginning of the nineteenth century, had their representatives in Sweden too, among whom the last was *Israël Hwasser* (1790—1860). The **pathological-anatomical** school of Paris at the beginning of last century, which once for all made clinical observation an integral element in pathological anatomy, found its first Swedish disciples in *A. Retzius* (1796—1860) and *M. Huss* (1807—90), and shortly after the middle of the nineteenth century professorships of pathological anatomy were founded in Uppsala and Stockholm at about the same time. The representatives of this subject at Uppsala, Stockholm, and Lund were respectively *P. Hedenius* (1828—96), *A. Key* (1832—1901), and *M. V. Odenius* (1828—1913). These investigators and their pupils, among whom may be mentioned *H. Bendz* (1851—1914), *U. Quensel* (born 1863), *E. Selander* (born 1846), *K. Sundberg* (born 1859), *A. Westberg* (born 1859), *C. Wallis* (born 1845), *G. Hedrén* (born 1865) and *M. Forsman* (born 1868) have done research work in pathological anatomy, or bacterio-**etiology**; in 1895 this last-named science was endowed with its first teacher, the post of Demonstrator of Bacteriology at the R. Caroline Medico-Surgical Institute in Stockholm beeing then created.

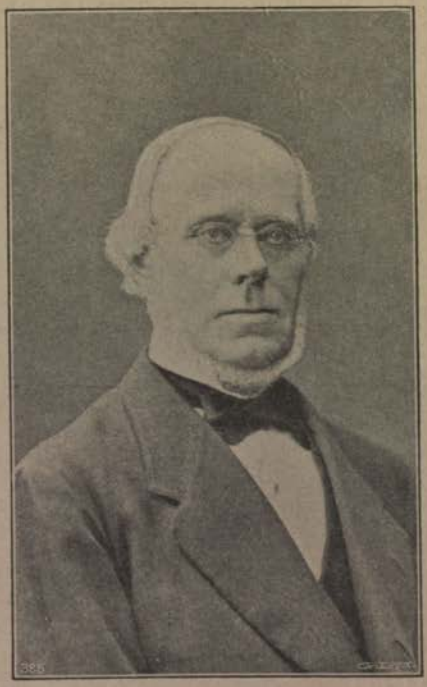
Modern **hygienic** research likewise obtained its first professorship in Sweden at the above-named Institution, the first holder of which from 1878 was *E. Heyman* (1829—89). *E. Almquist* (born 1852), *A. Key*, *K. Linroth* (born 1848), *C. Wallis*, and *R. Wawrinsky* (born 1852), *G. Wirgin* (born 1868) and *G. Korœn* (born 1877) have been active workers in this field. The extensive studies of A. Key in school-hygiene deserve special notice.

Forensic Medicine and Medical Jurisprudence were first accorded a chair at the R. Caroline Medico-Surgical Institute in Stockholm, *A. H. Wistrand* (1819—74) being appointed in 1861 associate professor. Besides him, *A. Jäderholm* (1837—85), *A. Key-Åberg* (born 1854) and *H. Bendz* have been the principal workers in this science in Sweden.

The history of **Internal Medicine** in Sweden is closely linked to that of the medical colleges. *P. Hoffvenius* (1630—82), professor at Uppsala, may be called the founder of this branch of study in Sweden. *Olof Rudbeck* the elder (1630—1702) worked zealously for the erection of the first university college hospital in the kingdom, but it was not actually decided upon until 1717. In the eighteenth century the medical faculty of Uppsala possessed two brilliant teachers and scientists: *N. Rosén v. Rosenstein* (1706—73), the father of Swedish pediatrics, and *Karl v. Linné* (*Linnæus*), who, among other things, affirmed that the maintenance of health depended on good air, sufficient exercise and sleep, suitable diet, etc., and with a seer's prevision declared in his treatise "Exanthemata viva" that contagious diseases such as plague, leprosy, consumption, ague fever etc., are bred in the human system by animalculæ, and these Linné hoped would in time be discovered. — In Lund the first professorship of practical medicine was held by the German polyhistor *Kr. Rostius* (1620—87). During the eighteenth century the most brilliant teacher the faculty possessed was *E. Rosén-Rosenblad* (1714—96), highly esteemed both as a physician and as a scientist. *Emanuel Swedenborg* (1688—1772), the famous visionary, produced, although be was not a physician, works on the brain (1740—41) and its diseases (some not yet published), which contain valuable discoveries for medical science, the import of which has not been found out and appreciated until our own times.

Internal medicine dates its regeneration from the middle of the nineteenth century, when the philosophical tendency of thought was thrust aside by scientific, objective investigation of nature. At the beginning of the century Sweden had two renowned physicians for internal diseases, viz. *P. v. Afzelius* (1760—

1843), archiater and professor at Uppsala, and the highly gifted *Eberhard Sakarias Munck af Rosenschöld* (1775—1838), professor at Lund, who made a name for himself later by introducing vaccination and other hygienic improvements into Sweden. In the middle of the century the school of natural philosophy, as mentioned above, was still active and had a distinguished representative in *Israël Hwasser* (1790—1860), professor at Uppsala, who was in high esteem on account of his winning personality. *Magnus Huss* (1807—90) opened up new fields for medical work, inaugurating in 1838 at the Seraphima Hospital a department of clinical medicine for internal diseases, which was equipped as efficiently as the knowledge of that time allowed. His works on alcoholismus chronicus, inflammation of the lungs, typhoid fever, etc., gained him European fame and are of lasting value. *P. H. Malmsten* (1811—83) is known for his works on chronic Bright's disease and for the discovery of several disease-breeding parasites. In Uppsala clinical instruction as understood in those times was introduced by *O. Glas* (1813—80), and in Lund by *P. E. Gellerstedt* (1815—89).



Fredrik Teodor Berg.

Among the physicians of the last few decades who have contributed considerably to the development of medical training and to the development of internal medicine, the following may be named: in Stockholm *R. Bruzelius* (1832—1902) worked as a clinical lecturer and as a scientific writer of works on "Laryngo-Pathology"; *P. J. Wising* (1842—1912) published results of investigations as to nerve complaints and internal diseases; *F. W. Warfvinge* (1834—1908) is deserving of mention for his work as regards the care of the sick, and for his investigations concerning fevers and diseases of the blood; *S. E. Henschen*

(born 1847), Uppsala University and Medico-Surgical Institute, Stockholm, has carried out numerous scientific investigations into nervous and especially brain diseases (Pathologie des Gehirns, 4 vols, 1890—1911), and has also written works on heart-diseases and tuberculosis. *J. G. Edgren* (born 1849), of Stockholm, has published investigations concerning diseases of the heart and blood-vessels. In Uppsala *O. V. Petersson* (1844—1912) prosecuted studies respecting the diagnostics of affections of the heart, albuminuria, and tuberculosis. In Lund *S. Ribbing* (born 1845) lectured on clinical medicine as does *Karl Petrén* (born 1868), the author of numerous medical works. *T. Hellström* (born 1857) has made investigations on the treatment of diphtheria by serum. *T. Stenbeck* (1864—1914) invented the sedimentator. *Israël Holmgren* (born 1871) professor in Stockholm, has investigated the physiology and clinical importance of the thyroid gland; *Gunnar Forssner* (1876—1915) is at present professor at Uppsala.

During the latter half of the nineteenth century several *specialities* have been taken up in Sweden. Pediatrics, the father of which was *Rosenstein*, was established as a modern science by *Fr. T. Berg* (1806—87; works concerning thrush and other subjects), and in his footsteps *Hj. Abelin* (1817—93) and *A. Kjellberg* (1828—84) followed both as teachers and promotors of this science, as also *O. Medin* (born 1847), who has treated of infantile paralysis, and *O. I. Wickman* (1872—1914), who made very important investigations into the same disease. The knowledge of venereal diseases has been furthered by works published by *E. L. Ödmansson* (1831—1910), the last on syphilis congenita, and *E. V. Welander* (born 1846), who has made investigations on the absorption of mercury by the human system and its excretion from it, and has discovered new methods of treatment. *L. M. Möller* (1857—1912) was a distinguished investigator of venereal diseases.

The scientific study of mental diseases was started in Sweden in 1859 by *N. G. Kjellberg* (1827—93), who opened the first psychiatrical clinic at Uppsala. Nervous disorders have been treated by *Fr. Lennmalm* (born 1858), *H. Köster* (born 1858), and several younger specialists. The oldest Swedish mineral wells were analyzed by *Urban Hjärne* (1641—1724). *J. O. Lagberg* (1789—1856) introduced the modern water cure. Balneology and climatical therapeutics have been advanced practically and scientifically, especially by *C. Curman* (1833—1913), who has analyzed the climatical conditions and the watering-place, properties of the West Coast of Sweden, as also by *A. Levertin* (born 1843). *E. G. Johnson* (1852—1914) applied himself to the treatment of stomach disorders, and *O. G. Wetterstrand* (1845—1907) to hypnotism.

In Sweden until the middle of the eighteenth century **Surgery** used to be practised as a trade by men who were designated barbers and barber-surgeons. At about that date there penetrated to the country the scientific spirit that the rise and development of anatomy called into existence. *Olof af Acrel* (1717—1806), very eminent both in theory and practice, is rightly regarded as the father of surgery in Sweden. In 1797 the so-called Surgical Society was brought to an end and in 1810 the R. Caroline Medico-Surgical Institute was established in Stockholm. Those two events brought in their train the removal of the old barrier existing between physicians and surgeons; from that time forward a Swedish doctor was expected to be possessed of both theoretical and practical knowledge of medicine and surgery. The honour of having introduced into Sweden well-organised clinico-surgical instruction belongs to *K. J. Ekströmer* (1793—1860). The work he began was pursued by *C. W. Santesson* (1819—86), a distinguished teacher and clever surgeon. *K. J. Rossander* (1828—1901) worked at his side, chiefly as an ophthalmologist. At the universities surgery was longer in obtaining representatives of its own than in Stockholm. In Uppsala *K. B. Mesterton* (1826—89) was a pioneer clinical teacher, as was *K. J. Ask* (1825—

97) in Lund. Thanks to the very thorough special training that is exacted of medical students in Sweden, there are up and down the country numerous excellently equipped surgeons. The literature of this branch of science is constantly growing: *K. G. Lennander* (1857—1908), in Uppsala, won renown as a distinguished writer, more especially in the department of abdominal surgery. The professors of surgery at the Caroline Institute in Stockholm at the present time are: *J. V. Berg* (born 1851), who in his scientific works has devoted himself specially to the surgery of the ventricle, the treatment of ectopia of the bladder, and modern cancer therapeutics; and *J. Åkerman* (born 1861), whose published works include treatises on the surgery of the lungs and on accident insurance. The representative of clinical surgery in Lund is Prof. *J. Borelius* (born 1859) and in Uppsala Prof. *G. Ekehorn* (born 1857), who has made himself famous by works, dealing with the surgery of the kidneys and with the pathology of ileus.

The best testimony to the progress achieved by surgery in Sweden during recent times is to be seen in the large number of public hospitals of modern equipment that have been erected, at great sacrifice on the part of the public at large, in various parts of the country, all of them superintended by well-trained, scientifically equipped surgeons.

Midwifery dates its first scientific impetus from the close of the seventeenth century, *J. van der Hoorn* (1662—1724) being its most eminent representative at the time. A professorship in obstetrics was established in 1761 at the Collegium Medicum, and thanks to the energetic labours of its first occupant, *D. von Schulzenheim* (1732—1823) the General Lying-in Hospital was erected in 1775. *P. G. Cederschiöld* (1782—1848) did a great deal to improve the training of surgeons in midwifery and also that of midwives.

Upon the completion of the new Lying-in Hospital in Södermalm, Stockholm, the training of midwives was almost entirely conducted there, Professor *A. Anderson* (1822—92) organizing the instruction in obstetrics for surgeons in a manner which for that time was excellent in the extreme. When he was appointed professor the subject of gynæcology was united to that of obstetrics for the first time in Sweden. Operative gynæcology was not however introduced until later, principally by *S. Sköldberg* (1838—72) and *W. Netzel* (born 1834). As professors and teachers of gynæcology and obstetrics there are at the present time the following at work: at Caroline Institute, *M. Salin* (born 1851), *F. J. Westermark* (born 1853), *Hj. Forssner* (born 1873) and *E. Ahlström* (born 1877); at Uppsala, Prof. *C. D. Josephson* (born 1858) and at Lund Prof. *G. E. Essen-Möller* (born 1870).

For the training of *midwives* there are now special schools at Stockholm, Gothenburg and Lund. The right to undertake accouchement operations is not conferred upon a would-be midwife until she has attended a special course and passed an examination in the art.

The scientific study of diseases of the eye in Sweden dates back to the days of *K. Fr. Ribe* (1708—64). During the latter half of the seventeenth century ophthalmology flourished, but it fell into decay again for the following fifty years. Its resuscitation may be said to have taken place at the time when *K. J. Rossander* in Stockholm, 1857, and *M. K. Löwegren* (born 1836) in Lund, 1868, recommenced systematic teaching in the subject.

Better conditions were established for the pursuit of ophthalmological study when the subject was divided off from surgery and was accorded a representative of its own at each of the two universities and at the Caroline Medical Institute.

At Stockholm the first professor (1891) of ophtalmology was *J. Widmark* (1850—1909); he made himself specially famous by his industrious researches into

the influence of light on the eye. At Uppsala *A. Gullstrand* (born 1862) has been professor of ophthalmology since 1894; he has won renown by his epoch-making researches on the laws of refraction of the eye-media; regarded as one of the most eminent ophthalmologists and physicists of the present day, he was awarded the (Nobel Prize for Medicine in 1911). Löwegren's successor (1906) at Lund was *J. A. Dalén* (born 1866), but he removed to Stockholm to fill the place left vacant by Widmark's death. Both he and his successor at Lund, *G. Ahlström* (born 1862), have written excellent works on their branch of science. At Stockholm *E. Nordenson* (born 1847) has been long practising as an eye-specialist, the retinal detachment being a subject to which he has devoted thoroughgoing study.

Diseases of the nose, ear and throat have quite recently been separated off as a special subject from surgery as a whole, but only at present at one medical college, viz. in Stockholm, has a professorship in it been established. The reform was heralded by a provisional arrangement of ten years' duration, during which *E. Stangenberg* (born 1860) was a teacher of the subject. In 1912 the first Swedish professor of otiatrics was appointed: *G. Holmgren* (born 1875); he has made the diseases of the inner ear a special topic of investigation.

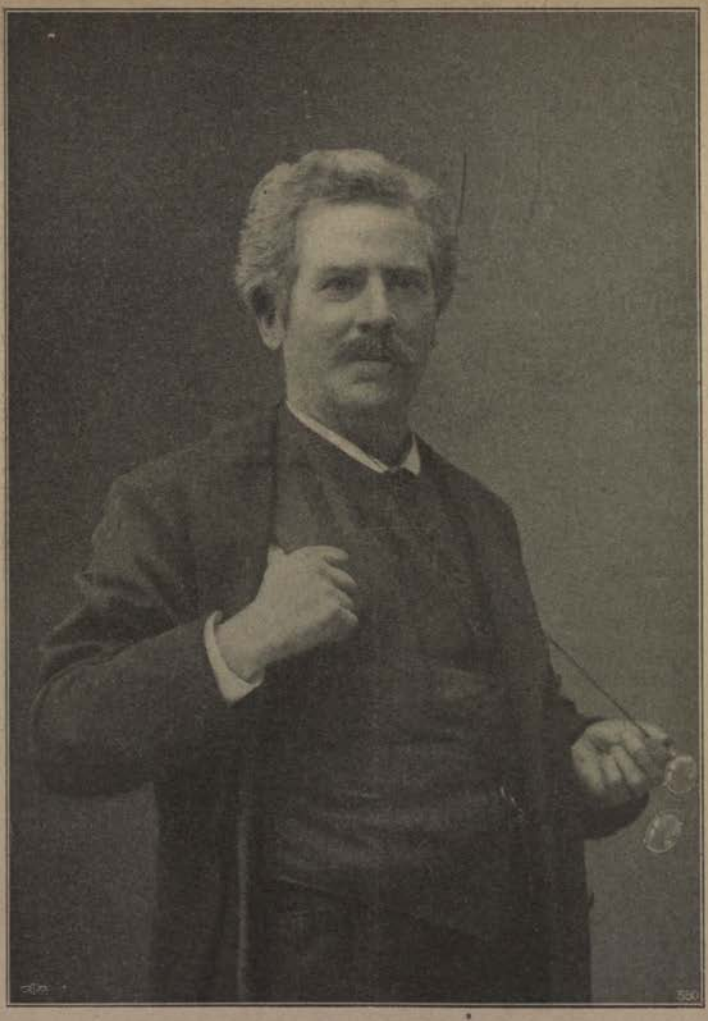
Radiology has made very rapid progress in the medical world, and at many of the larger Swedish hospitals, especially in conjunction with the clinics, institutions adequately equipped for its practice have been recently organized. The largest and most up-to-date one was erected at the Seraphima Hospital, Stockholm, in 1910; it is presided over by Dr. *G. Forssell* (born 1876), who had for four years previously been engaged as röntgenologist at the hospital and made himself famous by numerous works, especially by one dealing with the radiology and anatomy of the stomach.

Orthopaedic surgery has also in Sweden numerous representatives; at the Caroline Institute a professorship in the subject has just been established with funds presented by Fru Maria Ekman, widow of the late Consul Ekman, widely known for his great munificence to a variety of similar objects. The first occupant of the chair is Dr. *Patrik Haglund* (born 1870), who, in a large number of works, has dealt, among other topics, with infantile paralysis, its sequelæ and their treatment.

The principal Swedish medical **journals** are: Nordiskt medicinskt arkiv, Uppsala läkarförenings förhandlingar (Transactions of the Uppsala Medical Society), and Hygiea, the organ of the Swedish Medical Society (Svenska läkaresällskapet), which was founded in 1808.

Physical Anthropology.

In the prosecution of those researches that seek to solve the intricate problem of the physical characters of the races of mankind, with due regard paid also to their descent and reciprocal relationship, Swedish scientists have taken a prominent part. *Linnæus* (1707—78) laid down, in his Systema Naturæ, the number of distinct races into which mankind falls as five, basing his conclusions principally on the colour of the skin and on the arrangement of the Continents; his five were: Americans, Europeans, Asiatics, Africans, and a "freak" race. In place of the last-named Australians were ranged by the German anatomist Blumenbach among the five races; at the time of the issue of Linnæus' work they were not yet known of. Blumenbach for his subdivision of the races of mankind made use to a large extent of the shape of the cranium, more especially the shape and appearance of the face and forehead.



G. Retzius.

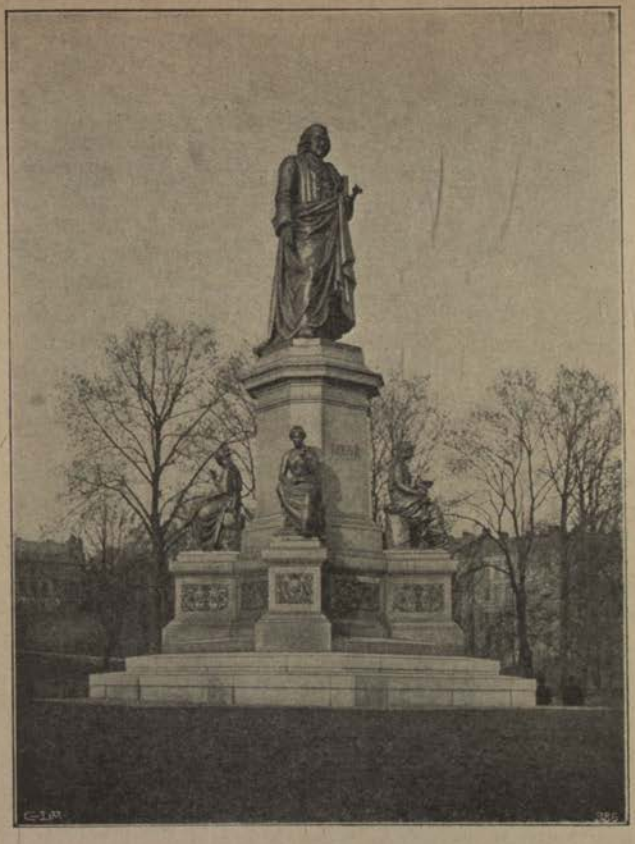
This branch of modern Anthropology was started by the researches that *Anders Retzius* (1796—1860) carried out respecting the shape of the cranium among the Northern peoples; it was subsequently pursued principally by German and French investigators. Retzius proved that there are distinct, typical shapes of cranium for the different varieties of race. He first investigated the people of Sweden and those of other European countries; then afterwards those of extra-European countries. The subdivision he established for the shape of the cranium, based upon the proportion existing between length and breadth (Index cephalicus Retzii), has been very generally adopted by subsequent writers and investigators, some of them introducing a middle form (mesocephali) between his original forms (dolichocephali and brachycephali), which he also had observed, though he was unwilling to introduce it as a special form variety. He also divided these varieties of crania, according to the less or greater prominence of the jaws, into orthognathous and prognathous. *Sven Nilsson* (1787—1883),

by his researches regarding the primeval inhabitants of Scandinavia, endeavoured to determine the shape of the cranium of the Stone and Bronze Age peoples, but the number of crania that he had access to was too small to allow of any definite and reliable results being attained. On the basis of a larger supply of crania, collected during succeeding decades from ancient graves by *N. G. Bruzelius* (1826—95), *B. E. Hildebrand* (1806—84), *G. von Düben* (1822—92), *G. Retzius* (born 1842), *O. Montelius* (born 1843), *H. Hildebrand* (1842—1913), and others, *G. Retzius* was able, in his extensive work "Crania suecica antiqua" (1899—1900), to give an account of the shapes of cranium that were prevalent in the Stone, Bronze, and Iron Ages in Sweden and which characterised the inhabitants of Sweden in primitive times. In "Anthropologica suecica", a large work published in 1902 by *G. Retzius* and *C. M. Fürst* (born 1854), the materials for which were collected, at the instance of the Swedish Society for Anthropology and Geography, partly by the authors and partly by a number of young medical men, from an examination of the Swedish conscripts of the year 1897—98 (about 45 000 men), there were discussed and defined the principal anthropological characters, viz. the shape of the skull, the length of the body, the colour of the hair and of the eyes, for the presentday population of Sweden in the various provinces. (V. p. 146 foll.). *J. V. Hultkrantz* (born 1862) had previously published an extensive report on the length of the body, based upon material, embracing more than 232 000 men, collected by the military authorities and covering the years 1887—94. *E. Clason* (1829—1912) contributed data respecting the shape of the cranium among Swedes, especially during the Iron Age and the Middle Ages. *C. M. Fürst* has further described a number of crania and cranium-series recently discovered, mostly dating from the Stone and Iron Ages, and has dealt with other important subjects in the department of Anthropology. *G. Backman* (born 1883) has published an exhaustive description of a group of Gottland crania dating back to the earlier Middle Ages and has also written several other works on Anthropology. Finally, in 1911, a posthumous work by *G. von Düben* appeared, giving tables of measurements taken by him on Laplander crania.

Botany.

The study of the vegetable kingdom and its phenomena had originally, in Sweden as in other countries, purely practical aims, among which the principal was to ascertain what plants could be used for medicinal purposes. *J. Chesnecopherus* (1581—1635) and *J. Franck* (1590—1661) deserve mention as the oldest Swedish writers on botany, although their works bear witness more to an assiduous study of foreign writers than to their own power of observation. It was not until the latter half of the 17th century that botany attained an independent position in Sweden, when *O. Rudbeck*, the elder, (1630—1702) and *O. Rudbeck* the younger (1660—1740) published a great work, »Campi Elysei», containing illustrations — which were extremely good for that period — of about 6,000 varieties of plants.

During the following century, botany attained a well-nigh dominating position in the scientific research of the country, thanks to Sweden's greatest naturalist, *Carolus Linnæus* (ennobled as *von Linné*), who was born at Råshult in Småland on May 23rd, 1707. According to the custom of the time, Linnæus took his degree of Doctor of Medicine abroad, namely in 1735 at Hardersvik in Holland, a town that was much visited by the Swedes of that period. He afterwards spent several years in Holland, when he published a fine series of original scientific works which gained for him European fame as a scientist and won him many friends and patrons among the most famous naturalists of



Statue of Linnæus, Stockholm.

his time. On his return to Sweden in 1738, he spent several years at Stockholm as a medical practitioner, until he was called to the University of Uppsala in 1741 as professor of botany and medicine, in which post he laboured indefatigably as a scientist and teacher until his death in January 1778. The extraordinarily important position which Linnæus occupies in the sphere of scientific research is due principally to his reform and pioneer work in classifying and describing botanical species, but he also wrote works on ecology and botanical geography which bear witness to the breadth of his views and the acuteness of his perception, but which have not been properly appreciated until our own time. He raised the description of animals and plants to a real art by forming diagnoses which, by means of short terms which were nevertheless sufficiently precise to render their meaning, aim at characterizing different species, and he also introduced the binary nomenclature, i. e. the method of naming animals and plants by a specific and a generic name. He developed the purport of the idea of species in a manner which has to a great extent remained in use even at the present time. By means of his sexual system, he was enabled to give a very necessary survey of the species then known; he developed the difference between artifical and natural systems and showed how to arrive at a natural system, and he distinguished and named 67 natural families. His principal systematic works are »Systema Naturae» and »Species Plantarum».

In his »Philosophia Botanica» he gives an account of what was then known respecting the external and internal construction of plants; the same work also contains numerous biological observations and an account of his views with regard to the description and classification of plants. His journeys in Sweden were of great importance for the knowledge of the country's nature and vegetation. Two of these journeys were made while he was still a student, namely to Lappland in 1732 and to Dalarne in 1734, while in later life he travelled as a professor and at the request of the Riksdag to Öland and Gottland in 1741, to Västergötland and Bohuslän in 1746, and to Skåne in 1749. He published accounts of his journeys, full of information and interestingly written, which can be read even at the present day with pleasure. In all his work Linnæus was more of an arranger and systematizer than a discoverer, and he has at times been reproached for his scanty interest in the higher branches of botany, such as vegetable anatomy and physiology. But it should be remembered that what Linnæus accomplished was without doubt what scientific research *at that time* most urgently needed.

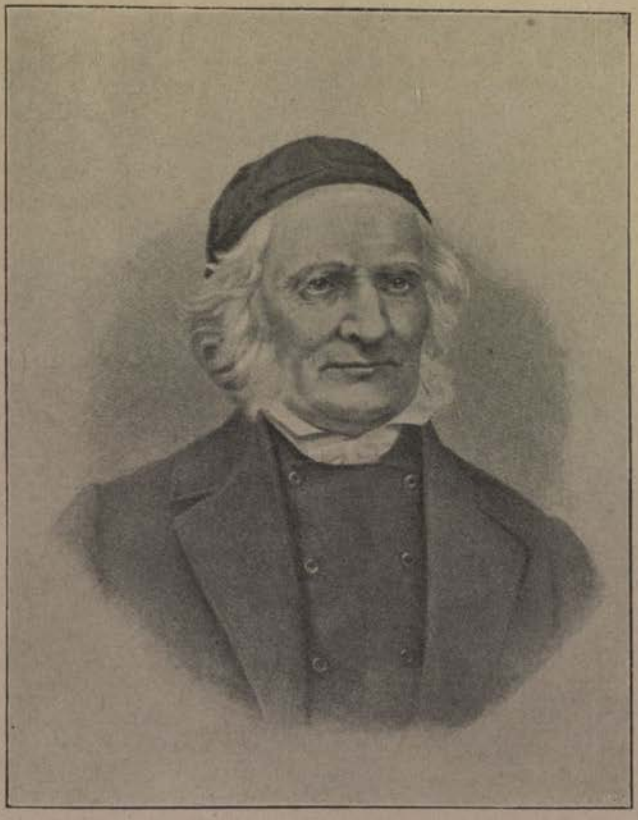
Linnæus' work was of extraordinary importance for the development of botany in Sweden. It was through him that botany became the »scientia amabilis» of the Swedish people, and he determined the main direction which Swedish botanical research was to take for the next hundred years. Many of his enthusiastic disciples visited countries which were at that time unknown and investigated their vegetation. Among these, the following deserve to be specially mentioned: *P. Löfling* (1729—56), who travelled in Spain; *P. Kalm* (1716—79), who made journeys of research to North America; *F. Hasselqvist* (1722—52), who made investigations in Asia Minor, Palestine, Arabia, and Egypt; *P. Forskål* (1732—63), known for his journeys in Egypt and Arabia; and finally, *A. Sparrman* (1748—1820), who investigated the vegetable life of South Africa, and accompanied the great English explorer, *J. Cook* (1728—79) on a voyage to the Antarctic regions. The greatest of all these explorers was, however, *K. P. Thunberg* (1743—1828), famous all over the world for his journeys in South Africa and Japan, the flora of which countries he described. Among the other disciples of Linnæus in Sweden may be mentioned in the first place *E. Acharius* (1757—1819), who devoted himself to the study of lichens and is considered as the founder of the science of lichenology. Another botanist who acquired a name by his research work was *P. J. Bergius* (1730—90), who, together with his brother *B. Bergius* (1723—84), donated the Bergian garden to the Academy of Sciences, with the object of promoting scientific research and training gardeners.

O. Swartz (1760—1818), who remained true to the traditions of Linnæus without being his actual disciples, made extensive journeys in North America and the West Indies and published a number of extremely valuable works, among which the most important are those dealing with orchids, ferns, and mosses.

As early as the beginning of the 19th century, botanists make their appearance in Sweden who may be said to introduce a new period, extending down to about the middle of the century. Of these, one of the most remarkable was *G. Wahlenberg* (1780—1851), an independent investigator, prolific in new ideas. He investigated in particular alpine vegetation, in Lappland, Switzerland, and the Carpathians. He introduced new and important points of view in the study of a country's vegetation by dividing the northern vegetation into various regions and by demonstrating how its character depends to a great extent on differences in climate. He takes his stand at the side of Humboldt as the founder of botanical geography, and his work »Flora Lapponica» marks an epoch in this branch of science. Unfortunately Wahlenberg did not train up any

followers, and research in botanical geography in Sweden was interrupted at his death and was only revived in the latter part of the century.

New schools appeared in the classification of phanerogamous plants, a brilliant representative of which was *Elias Fries* (1794—1878), who gathered round him a great number of disciples. The various species were subjected to a closer examination than Linnæus had been able to apply to them, and many of them were subdivided into several different species, a study which has had great significance for the development of the idea of species. Elias Fries also created a natural system containing many points which have since been adopted by modern authors. He contributed by his popular work »Botanical Excursions» to the popularization of the science. He had many followers in the study of species, among whom were *Th. M. Fries* (1832—1913) and *K. J. Lindeberg* (1815—1900). *K. J. Hartman* (1790—1849) published in 1820 a Scandinavian flora, which has since gone through no less than eleven editions, the last six of which were edited by the author's son, *K. Hartman* (1824—84); this work has to a high degree promoted the study of the Swedish flora and increased interest in it.



Elias Fries.

At the beginning of the nineteenth century the study of cryptogams awakened an greater attention than before among botanists. At that time also Sweden possessed two great men in the sphere of cryptogam research, namely *K. A. Agardh* (1785—1859), who studied especially algae, and *E. Fries*, who

by his numerous writings, in the first place »Systema Mycologicum», became one of the founders of the science of mycology and one of the greatest mycologists of all time. Through the work of these men, a special interest arose among Swedish botanists in the lower vegetable growths, an interest which has been maintained in later times, as is proved by the fact that for a long time almost all official representatives of botanical research were specialists in some group or other of cryptogams. Swedish investigation with regard to cryptogams was directed in the first place to classification and description of species, but thanks to improved methods of research, which came more and more into use, Swedish botany is in a position to register among its results many important discoveries with regard to the lower forms of vegetable life, propagation and other phenomena.

Algology was the branch of botany which was most studied, and among the representatives of this branch the following names may be mentioned. *J. G. Agardh* (1813—1901), who by means of a number of important writings, laid the foundations for his reputation as one of the leading algologists of last century. *J. E. Areschoug* (1811—87) made important discoveries with regard to the anatomy and propagation of several families of algae, and his pupil *F. R. Kjellman* (1846—1907) conducted what may be called classical investigations with respect to alga flora in the Arctic seas and introduced the idea of formation in the study of the alga regions of the ocean. *V. B. Wittrock* (1839—1914) was a prominent investigator of the classification of several large families of algae and *O. Norstedt* (b. 1838) is the greatest living authority on desmidiacae. Finally, *G. Lagerheim* (b. 1860) has published numerous works with regard to the construction and development of the lower algae. Among the younger botanists, we may mention in particular *K. Bohlin* (b. 1869), *Nils Svedelius* (b. 1873), and *H. Kylin* (b. 1879), who have written a large number of valuable algological works. Descriptive lichenology was excellently represented by *Th. M. Fries* and since by *J. Hedlund* (b. 1861) and *G. A:son Malme* (b. 1864). Mycology has been taken up from a modern point of view by *J. Eriksson* (b. 1848) and *E. Henning* (b. 1857), who have devoted their attention especially to uredinae, by *G. Lagerheim*, known by his monographs on interesting fungus families from a systematic point of view, and by *O. Juel* (b. 1863), who has made histological investigations of several different families; further by *Rob. Fries* (b. 1876), who has specially studied myxomycetes, together with *T. Vestergren* (b. 1875) and *L. Romell* (b. 1854). *S. Berggren* (b. 1837), *S. O. Lindberg* (1835—89), *H. W. Arnell* (b. 1848), and others have devoted themselves in particular to the study of mosses. The first-named has studied especially the moss flora of the Arctic regions; Lindberg, who was born and educated as a botanist in Sweden but afterwards became professor at Helsingfors, has had a reforming influence on the classification of mosses by means of a number of works revealing the keenness of his penetration.

Darwin's theory of evolution imbued systematization with new life and gave it new tasks to fulfil, and the relationship between various species and families of plants were examined from new points of view. Particular interest was aroused in the multiform or so-called critical families of plants, and in investigating them efforts were made to study the course of development itself. Extensive investigations have been carried out by Swedish botanists with regard to a great number of such families, such as those by *F. V. K. Areschoug* (1830—1908) on Rubus, by *V. B. Wittrock* on Viola etc., by *A. Dahlstedt* (b. 1856) on Hieracium, and Taraxacum, on Rumex and Gentiana by *Sv. Murbeck* (b. 1859), who also successfully applied geographical and morphological points of view to his investigations.

In the second half of the 19th century, Swedish botanical research also ex-

tended outside the boundaries of the country. In the numerous Arctic expeditions sent out since 1837, botanists have almost always participated, for the purpose of studying both the composition of the vegetation and biological peculiarities; among others may be named *Th. M. Fries*, *S. Berggren*, *A. G. Nathorst* (b. 1850), and *F. R. Kjellman;* the last-named in particular has made important observations on the subject of the conditions of vegetable life in the polar night and under low temperatures; among the younger botanists we may mention *G. Andersson* (b. 1865), *H. Hesselman* (b. 1874), *Th. Wulff* (b. 1877), and *H. Simmons* (b. 1866). The Antarctic vegetation has been investigated by *C. Skottsberg* (b. 1880), who has also studied the vegetation of the most southern parts of South America. The tropical and sub-tropical vegetation of South America has further been studied by *P. Dusén* (b. 1855) and *Rob. Fries*, and above all by *C. A. M. Lindman* (b. 1856) and *G. A:son Malme*, who, with the support of generous donations made by the Swedish doctor *A. F. Regnell* (1807—84), residing in Brazil, have carried out botanical research in the south of that country.

Botanical geography, which had been at a standstill since the time of Wahlenberg, received a new starting-point — that implied by the theory of historical evolution — by *A. G. Nathorst's* discovery in 1870 of a glacial flora of dwarf birches, the polar willow, Dryas etc. in the fresh water clays of Skåne. This beginning has since been followed up, partly by Nathorst himself and partly by other scientists, such as *G. Andersson*, *R. Sernander* (b. 1866), and others. Through the study of vegetable remains in clays, river sand deposits, peat mosses, and of impressions of leaves in lime tufa, the sequence of migration of a great number of plants has been ascertained, and by comparing the botanical observations with the geological study of the geographical development of Scandinavia during the post-tertiary period, scientists have arrived at the splendid result that the principal features of the development of vegetation since the glacial period are known. Other investigations in botanical geography, with special reference to the composition and biology of communities of plants, have been carried out by *H. von Post* (1822—1911), *R. Sernander*, *Alb. Nilsson* (1860—1906), *S. G. Birger* (b. 1879), *G. Samuelsson* (b. 1885), *G. Andersson*, *H. Hesselman*, etc.

As will be seen from the above, classification and description of species were for a long time the principal aims of Swedish botanical research. The reason for this is doubtless to be found in the great influence of Linnæus. Other branches, with the exception of botanical geography, were comparatively late in playing the same part as systematization, but development in recent times has been rapid and it can now be said that Swedish botanical research comprises all branches of the science. Even *K. A. Agardh* carried out anatomical and morphological investigations, but the appreciation of what he observed is clouded by speculations of natural philosophy. The first Swedish botanical anatomist, in the modern sense of the word, is *F. V. K. Areschoug*, who, by means of his investigations, has striven to prove a connection between the construction of plants and external conditions, and who created a very numerous special school at the Lund University, the leading spirit of which was *B. Jönsson* (1849—1911). In quite recent times, cellular anatomy, or histology, together with embryology have found many students in Sweden, such as *O. Juel*, *O. Rosenberg* (b. 1872), *S. Murbeck* and *H. Lundegårdh* (b. 1888), together with several others.

Physiology also occupies an independent position, especially at the University of Lund, and is represented among others by *B. Jönsson* and *B. Lidforss* (1868—1913). Modern research on the subject of heredity, which has received its present form through De Vries' theory of mutation and Mendel's laws, has been

very successfully carried on by Swedish botanists such as *B. Lidforss* and *H. Nilsson-Ehle* (b. 1873) and several others. *S. Axell* (1843—92) acquired a great reputation as a botanical biologist and *A. N. Lundström* (1847—1906) became known by his investigations on the symbiosis between plants and animals, whilst *R. Sernander* has specially studied plants' methods of spreading. *A. G. Nathorst* is one of the leading botanical palæontologists of the present time, and among his followers may be specially mentioned *Th. Halle* (b. 1884).

Quite recently, scientific botany has been to a great extent put to practical use. In the sphere of agricultural botany, *J. Eriksson* has worked for a long time on the diseases of plants. The Swedish Seed Association ("Sveriges Utsädesförening") works on scientific principles and with great success towards an improvement in the varieties of seed and of cultivated plants; its scientific director is *Hj. Nilsson* (b. 1856) while *H. Nilsson-Ehle, H. Tedin* (b. 1860) and *H. Witte* (b. 1877) are on its scientific staff. At the State Forestry Experimental Establishment there is a special scientific department for the study of forest biology; botanical research has been carried out in this institute by *G. Andersson, H. Hesselman, T. Lagerberg* (b. 1882) and *N. Sylvén* (b. 1880). At the Moor Culture Association *E. Haglund* (b. 1877) is engaged as botanist.

Sweden possesses two botanical journals, namely "Botaniska Notiser" which, with a few brief interruptions, has appeared since 1839, and "Svensk Botanisk Tidskrift" which has been published since 1907. Botanical works are in addition published in the proceedings of several learned societies, particularly in the proceedings of the Academy of Sciences, in the "Archiv för Botanik" and in the "Acta Horti Bergiani". Botanical works affecting practical questions are published in the reviews published by the Academy of Agriculture, the Forest Conservation Association, the Moor Culture Association, and the Seed Association.

Agricultural Science.

In this connection a short account can be given, too, of that important ally of agriculture which is found in agricultural science when systematically pursued. The first traces of the application of theory to agriculture can be found in such private journals as *Per Brahe's* "Household-book" (1581) and *Rålamb's* "A Nobleman's Exercises" (1690), but it was not until about the middle of the eighteenth century that any real efforts were made in the direction mentioned, appearing then in conjunction with the newly awakened interest in rural economy and natural science. While *Jakob Faggot* (1699—1777), Chief Director of the Land-Surveying Service and Secretary, in 1742, of the Academy of Sciences, by means of his celebrated pamphlets "Hindrances and Helps to Swedish Agriculture" and "On the Disease and Cure of the General Situation", gave rise to the epoch-making general and separate repartition of land" (Sw. storskifte och enskifte; *v. p.* II, 31), and while *Jonas Alströmer* (1685—1761) and his sons were giving fresh impulses to cattle-breeding in Sweden, both by means of writings and lectures, two Finlanders, *A. Gadd* (1727—97) and *P. J. Bladh* (1746—1816), were working in the same direction, and *Joh. Fischerström* (1735—96), a member of the Academy of Sciences, was publishing his "New Swedish Dictionary of Agricultural Economy" and his "Observations concerning Swedish farm-management, Public and Private". Meanwhile, chairs in Agricultural Economy had been founded at the Universities of Uppsala and Lund in the years 1740, 1750, and 1759, but without any very tangible results.

About the same period, however, great Swedish natural scientists began to turn their attention to questions concerning this, the main industry of the nation. *C. von Linné* (Linnæus; 1707—98), whose writings often contain numerous

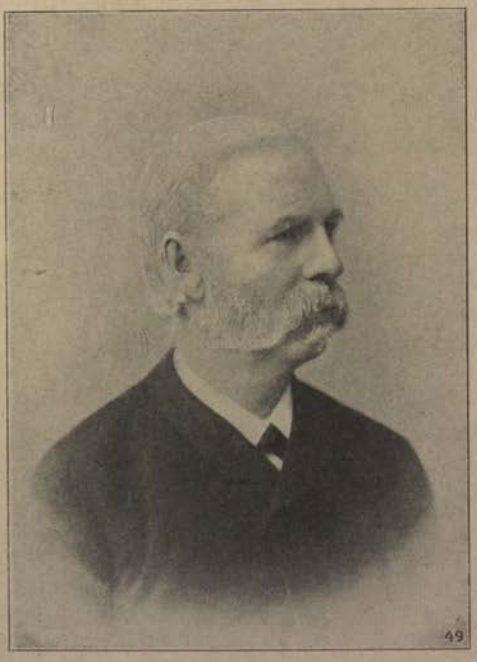
observations on agriculture, made special investigations concerning "Those native Plants which, in the absence of Cereals, might be employed in the preparation of Bread and Food", and a pupil of his, *And. Jah. Retzius* (1742—1821), continued his master's labours by a work entitled "An Attempt to draw up a Flora Oeconomica" and, furthermore, contributed to the knowledge of the history of domestic animals by an essay entitled "Studies on Horned Cattle", based on discoveries in the Skåne peat-mosses. Later on, *J. J. Berzelius* (1779—1848), in his lectures on animal chemistry in the years 1806—08, established this branch of study on its present basis. The half century from 1720—1770, termed politically the "Period of Liberty", was fairly rich in literature in the domain of agricultural science, the efforts made for the promotion of this subject being sometimes really remarkable. A prominent place is taken by *J. G. Wallerius* (1709—85), Professor of Chemistry, whose treatise, "The Chemical Principles of Agriculture", gives him a place as a pioneer in agricultural chemistry and proves him at the same time to have been far ahead of his age. Another work of his gives us a very complete "Theory of Soils"; he knew, moreover, how to apply his knowledge to practical farm-work, some account of which he has given us in his "Thirty Years' Observations on Farming".

In the "Economic Annals", published by the Academy of Sciences, there frequently appeared during this period scientific papers on various branches of rural economics, while the ideas of the period on the practice of this industry found expression in such writings as *E. Salander's* (1699—1764) "Instructions to Farm-bailiffs" (1727), *Jan Brauner's* "Ideas and Experiments on Fields and Meadows" (1752) or "Ideas on the Rearing of Cattle" (1756), *K. G. Boije's* (1698—1769) "The Experienced Swedish Farmer" (1756), *K. Dahlman's* "The Swedish Dairy-maid" (1772), the journal entitled "The Journal" (begun 1781), *J. af Darelli's* (1756—1834) "Rules for Bailiffs and the Farm-yard" (1799), *N. v. Törne's* "Farming in Systematic Order" (1801—14), etc.

Rationally studied theory in agriculture, however, cannot be said to have really laid a definite impress upon the practical work of farming in the country, until, during the fourth decade of the last century, the new movements in agricultural respects in England and Germany and the ever increasing literature that those new movements brought in their train began to make themselves felt in Sweden too. *Edv. Nonnen* (1804—62), a pupil of Thaer, may be said to have been the first to have made a more scientific study of farming feasible by founding, in 1833, the first agricultural college, that of Degeberg, as also by means of his lectures and pamphlets; in many departments he proved himself to be singularly successful as a pioneer. *Alexis Noring* (1799—1844) introduced into Sweden the new principles adopted in England at that period in the breeding of stock, and edited a number of serial publications, amongst which "The Quarterly Review of Agriculture and Stock-keeping" (1836—41), and his "Handbooks" on the same branches, bear eloquent witness to the very extensive and fruitful industry he devoted to these subjects. *Joseph Fogg*, an Englishman, laboured during the same period in the branch of cattle-rearing, by his very widely read "Handbook on Cattle-Breeding" (1836—41). — Finally, *John Teofil Nathorst* (1794—1862), also a pupil of Thaer, came to the front as early as 1825, by winning a prize with his "Handbook on the Knowledge of Wool and the Rearing of Sheep", and again, in 1832, with another prize work entitled: "Suggestions on Teaching-Establishments for Agriculture"; later on, he was exceedingly active in the capacity of Secretary at the Academy of Agriculture, not only as a writer but also as an organizer.

While the theory of farming had at this period been developed on approximately the principles which must still be considered, in the main, as the correct ones, the more technical details of the science in actual practice were

very far from being thoroughly understood, owing primarily to an ignorance of the natural laws underlying them. The honour of having been the first to remove, to some extent, the disadvantage that agriculture thereby suffered under, and of placing the theories of plant and animal production on a thoroughly scientific basis, belongs, as is well known, to *Justus v. Liebig* (1803—73), whose epochmaking works appeared in the early forties. The results of the labours of this writer and of contemporary scientists — Boussingault, Lawes and Gilbert, Wecherlin and Wolff, etc. — could soon be traced in Sweden, as in other countries.



Hj. Nathorst.

Among those who have contributed most effectively towards the advancement of Swedish agriculture by disseminating the knowledge of modern methods of work, based on the principles of Natural Science, may be mentioned: *Joh. Arrhenius* (1811—89), Docent in Botany, Principal of the Agricultural High School at Ultuna (1848—63), and Secretary of the Academy of Agriculture; by editing "The Journal of Rural and Communal Economics" (1840—61), "The Handbook of Swedish Farming", and subsequently "The Transactions and journal of the Academy of Agriculture", and also by writing a number of short essays on agricultural topics, Arrhenius proved himself an exceedingly indefatigable and valuable worker for the promotion of the best interests of farmers everywhere in Sweden. *J. Th. Bergelin* (1822—64), a pupil of Nonnen, was a contemporary of Arrhenius; his very useful work on behalf of agriculture consisted principally in his editing "The Journal of Swedish Farming", "The Quarterly Review of Practical Farming", etc., and in translating the works of Thaer, Kühn, Liebig, and Vincent. *Hjalmar Nathorst* (1821—98) was somewhat later in the field; he filled the offices of Principal at the Agricultural High School at Alnarp (1862—86), and of Secretary at the Agricultural Society in the Län of Malmö-

hus. He was active in many ways in the interests of agriculture: he was the author of a number of manuals on stock-breeding, e. g., on cattle-rearing, on the rearing of pigs, and on sheep-farming, and of numbers of shorter essays; he translated very largely from the literatures of foreign countries on the same subjects; he was, furthermore, a talented lecturer and public speaker and a keen debater; with all these multifarious activities he may, in truth, be said to have been the most energetic and successful advocate of the cause of modern Swedish agriculture, and has, perhaps, done more than any one else in Sweden to foster its development.

In the field of Agricultural Chemistry, a great deal of work has been done, and that of considerable value. *Hampus v. Post* (1822—1911), an eminent geologist and botanist, and lector at Ultuna, has proved himself possessed of original ideas, especially as a leader of experimental work, and by such writings of his as "Principles of Farming-Chemistry", etc.; his researches on the Swedish soils, and his creation of the accepted terminology for Swedish soil-varieties, are among his best contributions to agricultural science and are specially meritorious. — No less noteworthy is the work done by *Alex. Müller* (1828—1906), the first agricultural chemist appointed by the Academy of Agriculture, in 1856; his achievements were not restricted to one, but touched upon almost all branches of the science. The development of the method of soil-analysis that stands to his account, the thorough study he gave to soils, to methods of manuring, and to the cultivating of peat-mosses, the attention he paid to questions of urban sanitation, wholesome drinking-water, etc., the results of all of which were printed in Swedish and German publications, establish him as an unusually energetic and successful promotor of the science of agricultural chemistry. *C. E. Bergstrand* (b. 1830), also agricultural chemist to the Academy of Agriculture and the holder of other posts of distinction, carried out important research-work and wrote a number of books, etc., among which may be mentioned "The Principles of Agricultural-Chemical Analysis", "The Composition of Fodder-Stuffs", "An Examination of Stratified Marl", etc.

Very great importance attaches to the exceedingly thorough and eminently practical researches in various fields carried on by the late *L. Fr. Nilson* (1840—99); he, too, was chemist to the Academy of Agriculture; among his works may be mentioned here: "Studies on the Percentage of Fatty Matter in Cows' Milk", "On the Gottland Soils", "On Certain Feeding Materials and Swedish Forage-plants", etc. Among other noted agricultural chemists may be mentioned: *C. G. Eggertz* (b. 1845), author of works on "Vegetable Moulds in tilled Fields and Moor Tracts" and of "Attempts at the Cultivation of Moorland", etc.; *Albert Atterberg* (b. 1846), also known through his classification of cereals and soils; *Mats Weibull* (b. 1856), who specially devoted his attention to experiments and analyses of soils, especially as regards the reaction of arable lands, and their need of lime, and who also planned new methods of chemical tests for dairy-products, manures etc. etc.

Investigations and experiments in the domain of agriculture have, of late years, gradually been specialized. The **Swedish Seed Association,** for example, has been working since 1866 for the improvement, creation, and systematizing of cultivated plants by means of a most extensive system of experiments directed by *N. Hj. Nilsson* (b. 1856), *N. H. Nilsson-Ehle* (b. 1873), *H. Tedin* (b. 1860), *H. Witte* (b. 1877), etc.

In the same year, the **Swedish Moor Culture Association** also began its praiseworthy labours by both theoretically and practically promoting the cultivation of peat-mosses in Sweden; amongst the leaders may be noticed *C. von Feilitzen* (1840—1901), his son, *C. A. Hj. von Feilitzen* (b. 1870), *E. Haglund* (b. 1877), etc. — Both the Associations mentioned publish the scientific results of their work in their respective special technical journals.

The earlier scientific labours of the Academy of Agriculture has, since 1907, been transferred and extended by the creation of a special department called the **Central Establishment for Agricultural Experiments,** which has six different divisions and publishes the results of its investigation in its "Returns", which are issued in separate numbers. As directors of the experiments may be noticed; in the division for agriculture, *S. Rhodin* (b. 1856) and *P. Bolin* (b. 1865); for agricultural chemistry, *H. G. Söderbaum* (b. 1862), known for his experiments as to the action of artificial manures; for cattle-rearing, *Nils Hansson* (b. 1867), also known as the author of text-books on the subject; for agricultural botany, *Jak. Eriksson* (b. 1848), who has long been well-known for his observations on Swedish cereals, but also, and more especially, for his work "Diseases — particularly blight — attacking cultivated plants"; for entomology, *H. A. Tullgren* (b. 1874); and for bacteriology, *J. G. Chr. Barthel* (b. 1873).

Since 1898, the **machine- and implement-testing** departments of the agricultural high schools at Ultuna and Alnarp have been specially active in the experimental branch of their work, and the results of their labours have been published in yearly reports, drawn up by the secretaries or other members of the institutes in question, viz., *H. Juhlin-Dannfelt* (b. 1852), *A. Sjöström* (b. 1861), *Aug. Upmark* (b. 1865), *A. G. Timberg* (b. 1859), *L. Fr. Rosengren* (b. 1861), *P. E. Ullberg* (b. 1866), *K. Fr. Adelsköld* (b. 1880), *O. J. Th. Nycander* (b. 1857), *L. G. Thomé* (1875), *C. Hultman* (b. 1869), and *L. H. Kylberg* (b. 1872).

In the province of dairying, *N. Engström* (1851—1906), in "The Book of Farming" (Lantbrukets Bok), commenced a meritorious work on the industry in question, which has been concluded by *L. Fr. Rosengren*, who, in addition, has laboured successfully for the improvement, both quantitively and qualitatively, of dairy produce, and for the introduction of better and more scientific methods of work.

Horse-breeding and rearing have been dealt with in works by *C. G. Wrangel* (1839—1908), *W. v. Haffner* (1845—1913), author of "The Stud-book for Skåne"; by *V. Nauckhoff* (b. 1839), *E. Abramson* (b. 1864), the latter a specialist on the Ardennes breed, etc. Works deserving of special mention which deal with *the breeding etc., of other domestic animals,* are those by *Nils Hansson* and *E. O. Arenander* (b. 1862), and others. *The history of agriculture* has claimed attention from time to time; among the number of writers the following may be noted here: *P. v. Möller* (1809—83), "Stray Suggestions on the History of Swedish Agriculture" and other works; *H. Forssell* (1843—1901), "The Agricultural Industry in Sweden in the 16th Century" and other papers; and *Fr. Åkerblom* (1839—1901), "Historical Notes on Cattle-breeding in Sweden".

Under the title, "The Book of Farming" (Lantbrukets Bok), there has been published since 1901 a comprehensive *encyclopædic work,* intended to serve both as a text-book at agricultural high schools and as a guide for farmers who have enjoyed a higher degree of training. The authors of its various sections are: *H. Juhlin-Dannfelt, C. G. Wrangel, N. Engström. L. Fr. Rosengren, A. Sjöström, E. Nyström* (b. 1863), *H. Funkquist* (b. 1871), *N. Hansson,* and *E. Bohm* (b. 1858). — Text-books, partly intended for the lower schools of agriculture, have been written by *L. P. Holmström* (b. 1840), *J. Fr. Hallenborg* (b. 1854), *C. Rydberg* (b. 1870), *H. Kylberg, G. von Zweigbergk* (b. 1873), *E. W. Ljung* (b. 1878), *J. Nathorst* (b. 1860), etc., and others in a more popular style, by *P. Rösiö* (b. 1861), and others.

Among works in the domain of agricultural economics published during the present year, the following are deserving of mention: "Forestry", by *A. N. H. Wahlgren* (b. 1861); "The conditions governing the Home Market for Swedish Agricultural Produce", by *N. Wohlin* (b. 1881); "Rational Agricultural Book-keeping", by *L. Nanneson* (b. 1881).

Valuable contributions to our knowledge of the position and development of agriculture have, especially of late years, been made by such works as: "The Academy of Agriculture 1813—1912, and Swedish Agricultural Economics during the 19th century", by *H. Juhlin-Dannfelt;* "The Ultuna Agricultural High School, 1848—98", by the same writer; "The Alnarp Agricultural High School, 1862—1912", by *H. L. O. Winberg* (b. 1844); "The Agricultural Society of Örebro Län, 1803—1903", by *J. V. Jonsson* (b. 1852); "The Agricultural Society of Värmland Län, 1803—1903", by *Th. Andersson* (b. 1869); "The Agricultural Society of Skaraborg Län, 1807—1907", by *R. Kjellén* (b. 1864); "The Agricultural Society of Kalmar Län South, 1811—1911", by *E. Hilldoff;* "The Agricultural Society of Halland Län, 1812—1912", "The Agricultural Society of Älvsborg Län, 1812—1912", by *O. Mannerfelt* (b. 1852); "The Agricultural Society of Blekinge Län, 1814—1914", by *J. F. Wachtmeister* (b. 1867); "The Agricultural Society of Östergötland Län, 1814—1914", by *H. Schött* (b. 1861); and "The Agricultural Society of Södermanland Län, 1814—1914", by *J. A. Almquist* (b. 1870). In addition we have: "The History of the Geological and Geographical Development of Skåne", by *A. Hennig* (b. 1864); "The Breeding of Horned Cattle in Skåne during the 19th century", by *L. Nanneson;* "Manuring and Soil-Improvements in Skåne", by *A. Zachrison* (b. 1881); The Agriculture of Malmöhus Län, 1909", by *G. Leufvén* (b. 1870).

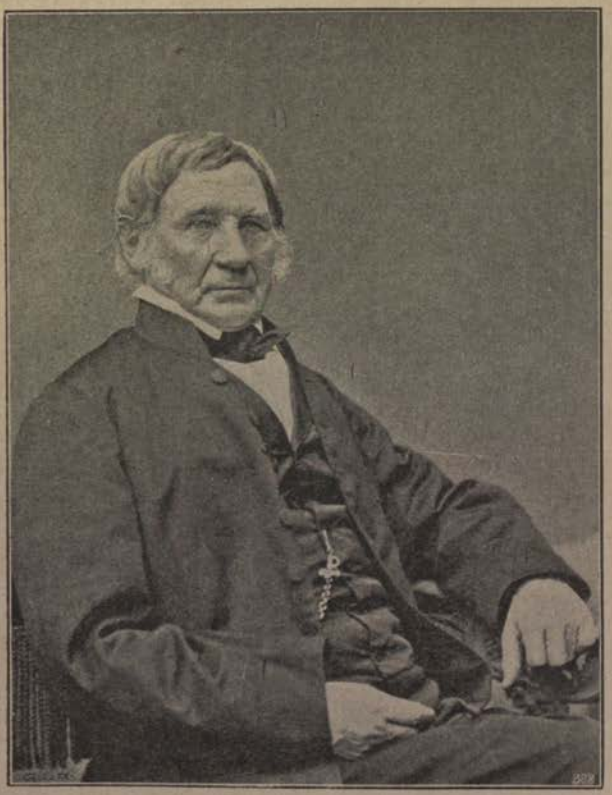
In addition, during 1914, there have been issued, as usual by the *Central Establishment for Agricultural Experiments* and by the other Swedish scientific institutions in the domain of Agriculture, their "Meddelanden" (Returns) concerning the results of the experiments they have carried out during the year.

Among the *periodical literature* dealing with Swedish agriculture, mention must be made — in addition to the "Transactions and Journal of the Academy of Agriculture", and the other journals etc., spoken of above — of "The Farmers' Journal" (Tidskrift för Lantmän), issued since 1880 by *H. L. O. Winberg* (b. 1844) — formerly Principal and head master of the Alnarp High School of Agriculture — in conjunction first with *N. Engström* and then with *M. Weibull*, both teachers at the same institute; of "The Farmer" (Lantmannen), issued since 1889 by *W. Flach* (b. 1857) — now the President of the Royal Board of Agriculture — aided by *H. Juhlin-Dannfelt, E. Insulander* (b. 1871) and, later on, by *Nils Hansson* and *A. Sjöström*, in addition to which, a fairly large number of farming newspapers, written in a more popular style, have begun to be issued.

Zoology.

Olof Rudbeck the elder (1630—1702) was the first Swedish scientist to make independent scientfic researches of any consequence, in the field of Zoology. The most important result of his work in this line was the discovery of the lymphatic ducts. He was likewise the first to found in Sweden an anatomical and zoological museum. However, it was the son, *Olof Rudbeck* the younger (1660—1740), who, like the father, was professor in Uppsala University, that was the real founder of zoology properly so called, in Sweden. *Linnaeus* (1707—78) gave a fresh direction to zoology as well as to botany. His reform of the terminology in particular was of supreme importance for the further development of the science. Regarded from the zoological point of view, the Systema Naturae was the most important of his numerous works; but his Fauna Svecica and his accounts of his travels in different parts of Sweden are of great value for zoology. — The most notable Swedish zoologists of Linnaeus' generation were the ichthyologist *P. Artedi* (1705—35), and the entomologist *K. De Geer* (1720—78).

Linnaeus having introduced system into the animal kingdom, the work of his immediate successors was naturally addressed to classifying the various species of animals in accordance with that system. Numerous new animal forms were described, and, in order to collect material, journeys were made even to the remotest regions of the globe. In Linnaeus' native country this was for some time almost the only kind of zoology that existed. Among Linnaeus' numerous Swedish disciples we note the zoologists *P. Forskål* (1732—63), *K. P. Thunberg* (1743—1828), and *A. J. Retzius* (1742—1821). The latter was professor in Lund University. Thanks to Retzius and several other excellent zoologists Lund became, and remained for some time, the centre of zoological research in Sweden. The most renowned of these scientists was *Sven Nilsson* (1787—1883), who exercised the greatest influence on the teaching of zoology in Sweden, especially by his works on the Scandinavian fauna. He also made important researches in the sphere of paleontology and archeology. Other eminent zoologists at Lund University were the two entomologists *J. W. Zetterstedt* (1785—1874) and *K. G. Thomson* (1824—99), and *O. M. Torell* (1828—1900); the latter's chief line, however, was geology. The present professor of zoology at Lund is *Hans Wallengren* (b. 1864).



Sven Nilsson.

The foundation of the State Natural History Museum at Stockholm in 1820 was a step of supreme importance for the development of zoology in Sweden. The first superintendents of the zoological section of that institution were the entomologist *J. V. Dalman* (1787—1828) and the ichthyologist *B. Fries* (1799

—1839). The zoological collection soon accumulated so rapidly that several scientists were needed to superintend them. *K. J. Sundevall* (1801—75) was appointed superintendent of the vertebrate collection, *K. H. Boheman* (1796—1868) and after him *K. Stål* (1833—78) of the entomological collection, *S. Lovén* (1809—95) of the collection of invertebrates, and *N. P. Angelin* (1805—76) of the collection of fossil animals. All these men were first-rate scientists, each in his own line. Lovén particularly deserves a place in the very front rank among Swedish scientists of the century. His works on embryology, small in compass but excellent, introduced into Sweden a branch of zoology which had hitherto received but scant attention. Afterwards he made extensive and valuable studies of echinidae. By his voyage to Spetsbergen in 1837 he gave so to speak, the first push-off to the long series of Swedish Arctic expeditions. He was also one of the pioneers of deap-sea exploration. On the ground of the occurrence of Arctic animal forms in the Baltic and some Swedish lakes, he broached the theory that these waters once formed part of the Arctic Ocean — an hypothesis that geology has afterwards confirmed. Two other late superintendents of the Natural History Museum deserve to be singled out for mention: the ichthyologist *F. A. Smitt* (1839—1904) and the paleontologist *G. Lindström* (1829—1901). — The present heads of the different sections of the State Natural History Museum are: *Einar Lönnberg* (b. 1865), who in recent years has devoted himself mainly to the study of vertebrates, the paleontologist *G. Holm* (b. 1853), the entomologist *Yngve Sjöstedt* (b. 1866), and *Hjalmar Théel* (b. 1848). The latter has addressed himself mainly to the anatomy and embryology of invertebrates.

After the death of Thunberg the study of zoology fell to a very low ebb at Uppsala, but in 1852 a Chair of Zoology was established there. The first holder of that Chair was *V. Lilljeborg* (1816—1908). His works deal first and foremost with the Scandinavian fauna, and among that fauna especially the vertebrates and crustaceans. Under his superintendence zoological research made rapid strides at Uppsala. He retired in 1882, and was succeeded by *T. Tullberg* (b. 1842), who has devoted himself to different branches of comparative anatomy. Tullberg was succeeded in 1908 by *A. Wirén* (b. 1860), who had previously been professor of comparative anatomy at the same university. *T. Thorell* (1830—1901), whose works are chiefly on spiders, was also for a short time lecturer in zoology at Uppsala.

In 1876 there was established at Uppsala a zootomical laboratory, the first in Sweden. It was presently followed up by a similar institution at Lund. In connection with these laboratories an assistant professorship of comparative anatomy was afterwards instituted at both universities. *A. Appellöf* (b. 1857) and *O. Carlgren* (b. 1865) are at present associate professors of comparative anatomy at Uppsala and Lund respectively. Both of them have written works on the anatomy of the invertebrates. At Stockholm University was established in 1884 a Chair of Zoology, which is held by *V. Leche* (b. 1850). Through his influence, also a Zootomic Institute was established at Stockholm. Leche has addressed himself to the anatomy of mammals. The Prosektor or Demonstrator at the Zootomic Institute just mentioned is *N. Holmgren* (b. 1877). — Almost concurrently with these zootomic laboratories a Zoological Maritime Station was established at Kristineberg in Bohuslän. The suggestion had come from Lovén. The Prefektor Superintendent of this latter institution is at present Professor *Hjalmar Théel*, and its active manager is *Hjalmar Östergren* (b. 1869). The birth of these institutions attests that new branches of zoological study have begun to be vigorously prosecuted in Sweden.

A few more names of now deceased zoologists must be mentioned in conclusion: *L. Gyllenhaal* (1752—1842), *K. J. Schönherr* (1772—1848), and *N.*

Westring (1797—1882); *A. E. Holmgren* (1829—88) the entomologists; *A. Retzius* (1796—1860), the anatomist and ethnographer; *K. V. S. Aurivillius* (1854—99), who has chiefly studied the animal life of the ocean; *D. Bergendal* (1855—1908), previously professor at Lund; and *K. A. Vesterlund* (1831—1908), the malokologist. From out the numerous ranks of Swedish scientists who have taken active part in the development of zoology in our days, a few more names must be singled out for mention: First and foremost *G. Retzius* (b. 1842; formerly professor of anatomy), known by his works on the auditory organs of the vertebrates, and by numberless other anatomical works. Next the eminent entomologist Professor *Chr. Aurivillius* (b. 1853), Secretary of Vetenskapsakademien (Academy of Sciences), *S. Lampa* (1839—1914), the entomologist, *G. Kolthoff* (1845—1914), the ornithologist, Lector *G. Adlerz* (b. 1858) the entomologist, *S. Bengtsson* (b. 1860), lecturer, the entomologist, Professor *C. Wiman* (b. 1867) the paleontologist, *L. Jägerskiöld* (b. 1867), Superintendent of the Gothenburg Museum, Lector *C. O. von Porat* (b. 1843), Lector *L. G. Andersson* (b. 1868), Professor *A. Tullgren* (b. 1874), the State entomologist, Dr *I. Trägårdh* (b. 1878), the entomologist, *T. Odhner* (b. 1879), the helmintologist, *N. von Hofsten* (b. 1881), and others.

Geology and Mineralogy.

Sweden assumed at an early period a prominent position in the domain of geological research. *Urban Hjärne* (1641—1724) pronounced the opinion, afterwards confirmed and amplified by many scholars, that the strata of the terrestrial globe were originally deposited under water, that fossils were once living creatures, and that the earth undergoes certain changes. After Hjärne there came forward successively: *E. Swedenborg* (1688—1772), *M. v. Bromell* (1679—1731), *K. Stobæus* (1690—1742), and *A. Celsius* (1701—44), all with treatises on geological, mineralogical or paleontological questions that, for the time at which they were written, were very noteworthy; the last-named dealt with the problem of water diminution in the Baltic and the North Sea.

Karl von Linné (1707—78) or, to give him the latinized form of his name, *Linnæus* was enabled by his keen faculty of observation to interpret wonderfully correctly the various geological phenomena that he had come across in his wanderings through the provinces of Sweden. Thus, to take one instance, he drew a profile section of Mt. Kinnekulle, a rock-mass built up out of horizontal Cambrian and Silurian strata; in its main features that production of his is regarded even at the present day as accurate; he furthermore instituted a comparison between that succession of strata and those occurring elsewhere. By propounding the theory that there was a fixed sequence of strata over the whole earth and that the strata were formed in the sea, Linnæus really laid the foundation of the system of classification established in 1780 by Werner, the German geologist and mineralogist, who grouped the rocks of the earth's crust according to the order of succession in which they were deposited by the water, i. e. evolved a system of grouping that is merely a further developing of the theory advanced by Linnæus. — As regards minerals Linnæus called attention to the importance, from the point of systematic classification, of their crystalline form. In that he was followed by *J. G. Wallerius* (1709—85), who published what was in effect the first handbook on mineralogy, a production that was looked upon as being far and away superior to anything that had been written on that subject since the days of Agricola. *A. F. Cronstedt* (1722—65) greatly advanced mineralogy by his excellent work, entitled: "Försök till mineralogi eller mineralrikets uppställning" (A Treatise on Mineralogy or the Classification of the Mineral Kingdom), which was translated into several foreign languages.

In 1766 *T. Bergman* (1735—84) published his famous work, "Fysisk beskrivning över jordklotet" (A Physical Description of the Globe), which may be said to have paved the way for Werner even more definitely than did the work of Linnæus. The work in question contains many important statements regarding the formation and classification of the earth's strata, their changes, dislocations, etc., statements bearing witness to what was, for that day, an unusually clear scientific insight into geological problems. Among other facts Bergman drew attention to the sediment deposited at the bottom of the sea being of necessity a contributory cause to the raising of the level of the water; that idea in recent times has been taken up and made further use of in the same direction. — *D. Tilas* (1712—72), *S. G. Hermelin* (1744—1820), and *V. Hisinger* (1766—1852) also made themselves noted in the field of geological research, the two last-named more especially by their geological maps. It may truly be said that even in the 18th century Swedish geologists were engaged in pursuing a course of investigation of their own, and that they were quite abreast of, indeed in some respects in front of, their contemporaries abroad.

Axel Erdmann.

At the beginning of the 19th century *N. G. Sefström* (1787—1845) attracted notice by the published results of his observations regarding the striæ scored on the surface of the rocks and as to the regularity of their direction. At about this time paleontology began to come to the front in Sweden, mainly owing to the work of *V. Hisinger, G. Wahlenberg* (1780—1851), *V. Dalman* (1787—1828), *S. Nilsson* (1787—1883), and still more to that of *N. P. Angelin* (1805—76), who classified the Swedish Silurian strata according to the fossil animals found in them. One of the foremost investigators in the field of paleontology in the latter part of the 19th century was *Gustav Lind-*

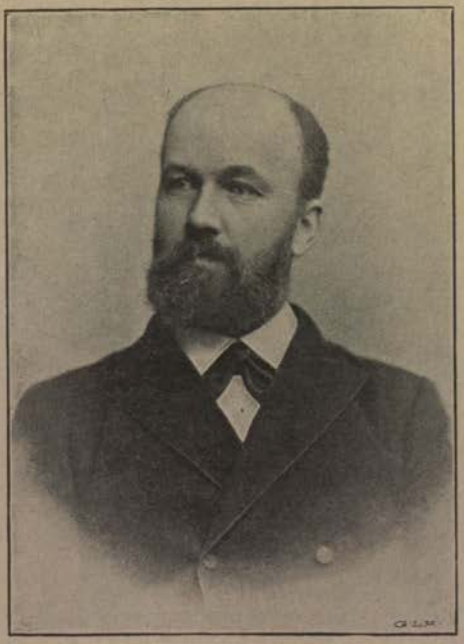
ström (1829—1901); he was also the most eminent authority of the time on the fossil fauna of the younger Silurian period. The following were also specially remarkable as paleontologists: *G. Linnarsson* (1841—81), *B. Lundgren* (1843—97), and *S. A. T. Tullberg* (1852—86). In the departments of mineralogy, petrography, and mining geology *A. Erdmann* (1814—69) and *A. Sjögren* (1822—93) were very energetic in their day. *A. E. Törnebohm* (1838—1911) did important work in the departments just mentioned, devoting himself with great success to the solution of the problem of the geology of the archæan rocks and the Swedish fjeld-formations. In explaining the architecture of the latter he made use of the so-called overthrust theory. He introduced the method of microscopic petrographic investigation and contributed in a great degree to its development and perfection. Even *A. Erdmann* in his day had perceived the great importance and value of this method for future investigation and during the last few years of his life he collected a not inconsiderable, although somewhat primitive, mass of materials for its prosecution.

Otto Torell.

For several decades past both geology and paleontology have been making uninterrupted advance: the Silurian, Rhaet-Lias, and Cretaceous series of strata, as well as their fossil animal and vegetable remains are being made the subject of study, and descriptions of the results published; the Quaternary deposits are being investigated with ever increasing interest and success, and in this branch of geology Swedish scientists may be said to have led the way; moreover, the volcanic and other rocks are being examined as regards their microscopic nature; the puzzling archæan rocks and the complicated architecture of the fjeld-regions are being studied, and contemporaneously at the Swedish universities geology has been accorded an increasingly important and secure position in the curriculum of studies; in one word: the present time is characterised by a

stirring life, a keen interest in geology, mineralogy, and paleontology quite unparalleled in former days. In all the departments named Sweden has men of science who by their researches have earned for themselves world-wide reputations.

A further powerful impulse in this direction was given by the establishment, in 1858, of "Sveriges geologiska undersökning" (The Swedish Geological Survey), a national, State-endowed institution that is engaged in conducting a detailed geological investigation, and in drawing maps, of the whole country. The organiser of this new enterprise was *A. Erdmann* and he became its first head. He was succeeded in 1871 by *O. Torell* (1828—1900), who gave place in 1897 to *A. E. Törnebohm*, while since Oct. 1906 *J. G. Andersson* (born 1874), the Antarctic explorer, has occupied the position. On the geological sheet-maps published by the Swedish Geological Survey (Scale: 1 to 50 000 and 1 to 200 000) there are depicted the occurrence and extent of the Quaternary deposits as well as the outcropping of the various rocks. More than 190 000 sq.km in Central and Southern Sweden have been already mapped, besides which geological maps of eight different Läns and divisions of Läns have been published as well as a geological sketch-map of the whole country.



Alfred Gabriel Nathorst.

The founding of the Stockholm Geological Society (1871) and the periodical appearance of its Journal have of course likewise tended in a high degree towards stimulating an interest in geology, and so has the publication, since 1892, of the Uppsala ("Bulletin of the Geological Institution").

The researches pursued by Swedish scientists in Polar districts have been of great importance, especially in throwing light on the Glacial period in Scandinavia. *S. Lovén* (1809—95) was the first to pay a visit to Spitzbergen for the purposes of study, and on that occasion made the important discovery of Jurassic fossils in the strata of that island. Since then *Torell*, the pioneer in the department of Glacial Geology, *A. E. Nordenskiöld* (1832—1901), the

famous mineralogist and accomplisher of the North-East Passage, *A. G. Nathorst* (born 1850), the renowned phyto-paleontologist, and *G. J. De Geer* (born 1858) have organised and commanded of a large number of expeditions to the regions of the North Polar Sea, more especially Spitzbergen and Greenland, and *O. Nordenskjöld* (born 1869) one to the Antarctic; all of these have been of importance in the history of geological development.

In the department of Quaternary geology there have won especial distinction: *O. Torell*, the victorious champion of the theory of a general glaciation of Northern Europe, *Hampus von Post* (1822—1911), and *A. Erdmann*, and also, in more recent times, *G. De Geer* and *H. Munthe* (born 1860); of the two last-mentioned the former, by determining for a series of localities the number of the separate laminæ of the Late-Glacial clay, which he has shown to be annual, has found himself able to calculate the lapse of time involved by the retreating or melting down of the inland ice; the latter, on the other hand, has proved that in the Post-Glacial period the Baltic was an enclosed fresh-water basin, the so-named Ancylus Lake. Of other still living geologists, *Leon. Holmström* (born 1840) is known for his researches into the upheavel of land and for contributions to Quaternary geology, as is the case too with *A. G. Högbom* (born 1857), while *G. De Geer* and *H. Munthe* are famous for studies respecting changes of elevation during Glacial and Post-Glacial periods. *Högbom* has also been a busy writer on many phases of geological science. *N. O. Holst* (born 1846) drew attention to himself by the publication of papers on conditions prevailing at, and deposits made during, Quaternary times, and *Gunnar Andersson* (born 1865), *R. Sernander* (born 1866), and *L. von Post* (born 1884) have successfully pursued inquiries into peat-mosses and the Quaternary plant-world.

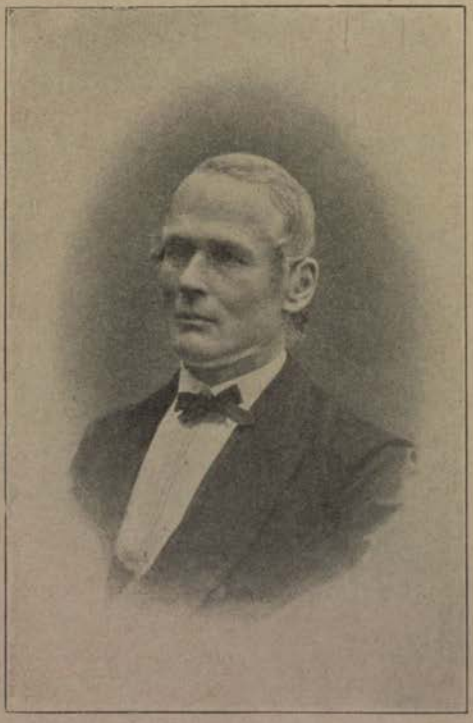
The following have won reputations for paleontological investigations: *L. Törnqvist* (born 1840), *G. Holm* (born 1853), *J. Chr. Moberg* (born 1854), *A. Hennig* (born 1864), and *C. Wiman* (born 1867); *Hj. Sjögren* (born 1856), *H. Bäckström* (born 1865), *P. J. Holmquist* (born 1866), *A. Hamberg* (born 1863), and *A. Gavelin* (born 1875) are specially noted as mineralogists and petrographers, *Hamberg* also as a fjeld explorer; *F. Svenonius* (born 1852) is renowned as a specialist on fjeld and glacier geology, *Hj. Lundbohm* (born 1855) and *V. Petersson* (born 1862) as ore-geologists; *E. Erdmann* (born 1840) has investigated and described the Skåne coalfields, *H. Hedström* (born 1867), besides doing other geological work, has rendered able service to practical geology, especially as regards the stoneworking industry, a remark which also holds good of *Hj. Lundbohm*, mentioned above.

Physics.

It was comparatively late that Physics was admitted as an independent science in the Swedish university curriculum: at the beginning of the eighteenth century it was always tacked on to some other subject, usually to mathematics. The first strong impetus to independent physical research in Sweden was connected with the general revival of learning in the middle of the eighteenth century.

Anders Celsius (1701—44) was in the first place an astronomer, but devoted himself also to physical research. He made photometrical observations on the intensity of illumination in relation to the distance of the source of light, studied the aurora borealis and terrestrial magnetism, observed how gravity varied according as latitude, and so forth. His name is connected with the centigrade scale, which he was the first to construct. However, he took the boiling-point of water at zero, and the melting-point of ice at 100°: it was Linnæus that gave the scale its present form. — *S. Klingenstierna* (1698—1765), a famous

mathematician and optician, was the first professor of physics at the University of Uppsala (1755), where he was a successful and influential teacher. The most celebrated of his pupils was *J. K. Wilcke* (1732—96), one of the most eminent electricians of the times. Among his works should be specially singled out for mention his observations on the variations in terrestrial magnetism, in which he corroborated the observations of Celsius on the influence of the aurora borealis on the magnetic needle, and also his notable studies on calorimetry, the main principles of which he independently discovered. — *G. G. Hällström* (1775—1844), professor at Åbo was famous for his valuable researches on the expansion of bodies by heat.



Anders Jonas Ångström

In the nineteenth century physical sience entered upon its most glorious phase. *F. Rudberg* (1800—39) won fame by a series of important experimental researches. Among these, special mention may be made of his researches in the optical properties of crystals, his improvements in the construction and testing of the thermometer, his discovery of double melting-points in certain metallic alloys, and his researches regarding the expansion of gases, especially his determination of the coefficient of the expansion of air. — *A. F. Svanberg* (1806—57) has, among other things, investigated the thermo-electrical force in bismuth and antimony crystals, and also constructed and described several apparatus of great ingenuity, viz. an electric duplicator, the precursor, in principle, of Holtz' "influence" machine, and a galvanic differential thermometer, which differs only in technical details from Langley's bolometer (for measuring the intensity of radiant heat).

A. J. Ångström (1814—74) was one of the leading scientists of Uppsala University. He may indeed be claimed to be one of the chief founders of the spectrum analysis. Thus in 1853 he enunciated the principle that a body in an incandescent condition should emit the same kinds of light as it absorbs at ordinary temperature. Among his other optical works may be mentioned his atlas of the solar spectrum, which was for a long time the standard for all determinations of wave-lengths, his researches in the optics of crystals, and those in the spectrum of the aurora borealis. Moreover he invented an extremely ingenious method for determining the heat conductivity of bodies. — Another of Sweden's most eminent physicists was *E. Edlund* (1819—88), who elaborated a new theory to explain electricity: like Franklin he assumed the existence of *one* electric fluid, which he identified with the ether of light. He endeavoured to explain electro-dynamics by the current of ether. Amongst his numerous experimental investigations may be particularly mentioned his works on extra currents; on the heating effects of induction currents; on unipolar induction, by which he tried to explain the aurora borealis and atmospheric electricity; on discharges of electricity in rarefied gases, which, in accordance with his theory, led him to suppose a vacuum to be a good conductor of electricity. Further, he discovered the electro-motive force in the electric arc; he investigated the evolution of heat in metals ensuing on a change of volume, and endeavoured by wire-stretching experiments to determine the mechanical equivalent of heat; he studied also the formation of ice in the sea. — *T. R. Thalén* (1827—1905) has conducted experiments of great delicacy in spectrum analysis, and was the assistant of Ångström at many of his labours in the same field. Thalén also wrote several works on magnetism; thus he made important contributions to our knowledge of terrestrial magnetism in Sweden, and also methods of investigating iron ore fields. — *K. Ångström* (1857—1910) devoted himself almost exclusively to the study of radiation and questions connected with it. His studies of solar radiation were of great scope and of fundamental importance: for this purpose he constructed an instrument called the pyrheliometer. This instrument, which came into extensive use, was adopted in 1905 as the standard instrument for measuring solar radiation at the Meeting of the International Union for Cooperation in Solar Research at Oxford, and shortly afterwards at the International Meteorological Conference at Innsbruck. Ångström also constructed an apparatus for measuring the nightly radiation from the surface of the earth.

Among other eminent Swedish physicists of the past, may be mentioned *F. Wrede* (1802—93), who directed his attention chiefly to optics, *P. A. Siljeström* (1815—92), who carried on a series of experiments with regard to the validity of Boyle's law at low pressures, and *John Ericsson* (1803—89), of whose remarkable discoveries and studies may here be noticed his experiments on the radiation of heat and his invention of the calorific and the sun engine. — *K. A. V. Holmgren* (1824—1905) who worked in the sphere of electricity, *G. R. Dahlander* (1834—1903; electricity) and *A. Wijkander* (1849—1913; terrestrial magnetism).

Among now living physicists should be mentioned: *K. B. Hasselberg* (b. 1848; professor at the Academy of Sciences, Stockholm), who has published accurate works on spectrum analysis and spectrography; *S. Arrhenius* (b. 1859; professor at the Nobel Institute), who has published numerous works on physical chemistry, and developed the theory of electrolytical dissociation, for which he obtained the Nobel Prize in chemistry in 1903. *A. Gullstrand* (b. 1862; professor at Uppsala), who has published a series of works in geometrical optics which have revolutionized the theory of optical imagery, and who obtained in 1911 the Nobel Prize in medicine for works relating to the dioptrics of the eye. *G. Lundquist* (b.

1841; formerly professor at Uppsala; heat and light), *J. R. Rydberg* (b. 1854; professor at Lund; spectrum analysis), *C. Mebius* (b. 1854; electricity), *V. Carlheim-Gyllensköld* (b. 1859; terrestrial magnetism), *E. Solander* (b. 1858; terrestrial magnetism), *P. G. D. Granqvist* (b. 1866; professor at Uppsala; electricity), *C. Benedicks* (b. 1875; professor at Stockholm University; siderology), and *A. J. H. Koch* (b. 1878; optics). Finally we must mention *G. Dalén* (b. 1869), Superintendent Engineer, who obtained in 1912 the Nobel Prize in Physics for the invention of self-acting governors for use in combination with gas accumulators for the lighting of lighthouses and light buoys. (See the section: Gas and Acetylene.)

Chemistry.

As long as no facilities were available for obtaining systematic instruction in chemistry, Chemistry in Sweden had only few and random votaries. But as Sweden grew to be a great power and was brought into closer contact with other nations, the zest for chemical research was stimulated, and the value of chemistry better realized. The so-called Era of liberty gave a great impetus to industry, and then the most eager students of chemistry were the owners of mines and iron works and persons otherwise interested in mining. The first name that falls to be mentioned from among the earlier chemists is that of *J. Kunckel* (1630—1703), a German scientist who had been called to Sweden from Rendsburg (in Sleswick-Holstein). Kunkel's chief claim to distinction is that he discovered and made public the method for the preparation of phosphorus, which had hitherto been jealously guarded as a secret of the crafe. Furthermore, he achieved several other important discoveries in the technique of chemistry; he was a glass-maker, and discovered the process for bone-glass and for ruby glass. — *U. Hjärne* (1641—1724) gave the first impetus to the investigation and profitable use of Swedish mineral waters, described formic acid, and formulated a theory to explain how it comes that metals increase in weight when calcined in air. It was at his suggestion that Charles XI, in 1685, opened an experimental laboratory at Stockholm where experiments, chiefly in the interest of Mining, were conducted at State expense. Hjärne himself was nominated superintendent of this institution, which was one of the first State-aided laboratories on record. — *G. Brandt* (1694—1768) distinguished himself by discovering cobalt, and *H. T. Scheffer* (1710—59) was famous for his studies of platinum.

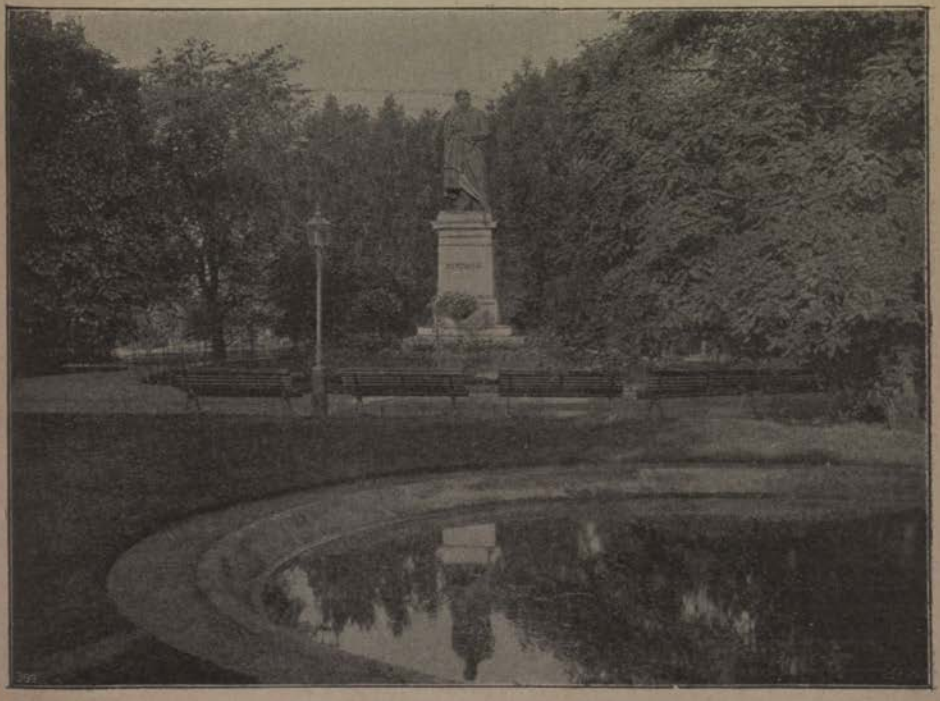
The establishment of the first Swedish Chair of Chemistry, at Uppsala, in 1750, ushered in a new period, which was marked by a more methodical and more rigorously scientific study of chemistry. The decidedly practical tenour of the preceding epoch was at first discernible even in the new era; but as that era approached its meridian, pure chemistry found her votaries, and found them among scientists of high standing. In theoretical chemistry the doctrine of phlogiston still held undivided sway. A characteristic note of the period is the assiduous attention paid to blowpipe analysis.

Even in this brief review one must not pass over *J. G. Wallerius* (1709—85), the founder of agricultural chemistry, and *A. F. Cronstedt* (1722—65), the discoverer of nickel. But the first names of lustre are those of Bergman and Scheele. — *T. O. Bergman* (1735—84) laid the foundations of the modern theory of chemical reaction and of qualitative analysis by means of aqueous solutions, and also paved the way for the study of quantitative analysis; discovered the method of analysing insoluble substances by fusion with alkali carbonates; converted blow-pipe chemistry to new uses; and endeavoured to express the degree of chemical affinity in bodies by drawing up a large number of "Affinity

Statue of Karl Vilhelm Scheele, Stockholm.

Tables": these tables were vastly appreciated by his contemporaries. He demonstrated the acid properties of carbonic acid and its presence in air. Finally, he laid bare the ground of the difference between pig iron, steel, and malleable iron. — *K. V. Scheele* (1742—86) anticipated Priestley's discovery of oxygen, which he called "fire air", ascertained its essential chemical properties, and showed that air is a mixture of that gas and of another, which he termed "vitiated air", that is, nitrogen. He set up on phlogistic lines an independent hypothesis on the phenomena of combustion. He discovered the elements, chlorine, barium, manganese, molybdenum, and tungsten, and the important inorganic compounds, arsenic acid, arseniuretted hydrogen or arsine, hydrofluoric acid, and Prussic acid. He demonstrated phosphorus as a cause of cold-shortness in iron, ascertained the qualitative analysis of sulphuretted hydrogen, investigated the action of the sunlight on chloride of silver, and controverted the doctrine of the transformation of silicic acid into alumina, and the change of water into earth. Scheele's researches in organic chemistry were also of the utmost importance for the advance of the science. He was the discoverer of glycerine and a large number of organic acids. *J. G. Gahn* (1745—1818) discovered the presence of phosphoric acid in bone-ash, and exhibited for the first time the occurrence of that acid in the mineral kingdom.

J. Berzelius (1779—1848) placed the science of chemistry on a new basis. It was he that routed the phlogiston theories out of the field, and obtained a firm footing for the contrary tenets in the scientific literature of his country. Fusing these anti-phlogiston tenets with the atomic theory and the electro-chemical view-point, he created out of these component elements a homogeneous body of chemical doctrine. He ascertained the quantitative composition of the principal inorganic substances, and showed how that composition can always be expressed by definite and simple numerical ratios, thus placing Dalton's atomic theory on a firm basis. Linking up these results with Gay-Lussac's law of the combining volumes of gases and with Mitscherlich's law of isomorphism, he determined exactly the equivalents of the combining ratios of many elements in an enormous number of compounds. He developed systematically Lavoisier's oxygen theory and the dualism which that theory involves, for which he endeavoured to find a rational explanation in the electro-chemical hypothesis known as Berzelius' dualistic theory. He developed and improved chemical nomenclature, and he was virtually the creator of the chemical notation still in use; he introduced into chemistry the terms isomeism, polymeism, and allotropism. He applied the law of constant porportions to minerals and organic compounds, he elaborated a new mineralogical system based on a chemical foundation, and formulated (partly together with Liebig) the earlier theory of radicles: one of the first attempts to ascertain the atomic composition of organic bodies. He moreover discovered three new elements: cerium, together with *V. Hisinger* (1766—1852), and selenium and thorium. Together with *M. af Pontin* (1781—1858), he succeeded in reducing the alkaline earths, and discovered ammonium amalgam. He was the first to prepare silicon and zirconium in a free state. His researches into amimal substances entitle him to be designated



Statue of Jöns Jakob Berzelius, Stockholm.

as the founder, or one of the founders, of physiological chemistry. Berzelius invented the method of decomposing silicates with the aid of hydrofluoric acid, and of separating metals by means of chlorine. He brought into use platinum crucibles, washing-bottles, and rubber ligatures, and was the founder of modern ultimate analysis. He disseminated the knowledge of blowpipe analysis beyond the precincts of Sweden. He was the author of a comprehensive manual of chemistry. Finally, through the medium of his Annual Reports on Chemistry, issued from 1821 to 1847, and in other ways, he wielded a powerful and wide-spread influence as a critic.

To this period there belonged several other notable chemists. Thus there was *A. G. Ekeberg* (1767—1813), the discoverer of tantalum; *N. G. Sefström* (1787—1845), the discoverer of vanadium; *J. A. Arfwedson* (1792—1841), an assiduous analyst of minerals, and the discoverer of lithium. Finally *K. G. Mosander* (1787—1858), who discovered no less than four new elements, lanthanum, didymium, erbium, and terbium.[1]

After the Berzelian period, chemical science in Sweden proceeded at first along the lines marked out by the master; it was but slightly affected by the great revolution which was then taking place in chemistry in Europe at large. *L. F. Svanberg* (1805—78) determined the atomic weights of several elements, and discovered phosphomolybdic acid. *N. J. Berlin* (1812—91) made the first exact determination of the atomic weight of chromium. He was an author of chemical text-books. He deserves particularly to be remembered as a writer of popular scientific manuals; his famous "Naturlära" (Manual of Physics), which has been translated into several languages, was quite epoch-making in that line. *V. Eggertz* (1817—89) elaborated valuable methods for the testing of iron and iron ores. *H. v. Post* (1822—1911) was eminent both as a teacher and as an author in the field of Agricultural Chemistry. *K. V. Blomstrand* (1826—97) endeavoured to reconcile Berzelius' system with modern chemistry by deducing the latter as a corollary out of the former, and thus paved the way for more modern points of view. He also actively contributed to the solution of the problem of the combining values of the elements.

In the course of the last few centuries, Swedish chemistry has emerged more and more completely out of the isolation into which it had lapsed after the death of Berzelius, and has made very important contributions to chemical science in many of its branches. *F. L. Ekman* (1830—90), the hydrographer, studied the processes of sulphuric acid manufacture, and devised methods for the analysis of water. *A. Nobel* (1833—96) invented dynamite and the smokeless Nobel powder called after him. *L. F. Nilson* (1840—99) made an extensive study of coupled platinum compounds and of the rare earths, discovered scandium, determined the atomic weights and combining weights of several elements, and wrote a number of works on analytical chemistry. He afterwards took up agricultural chemistry, and published important works on the fat percentages of cow's milk, the nutritive value of Swedish forage-plants, the cultivation of the White Beet, manures, and so forth. *P. T. Cleve* (1840—1905) made important studies of ammonical metallic compounds, naphthalene derivatives, and the rare earths, among which latter he discovered two new elements: holmium and thulium. *E. Berglund* (1846—87) made valuable researches into amido and imido sulphonic acid, and executed important analytical work. *J. A. Bladin* (1856—1902) achieved distinction by his syntheses of remarkable organic closed-chain compounds of carbon and nitrogen (triazoles and tetrazoles).

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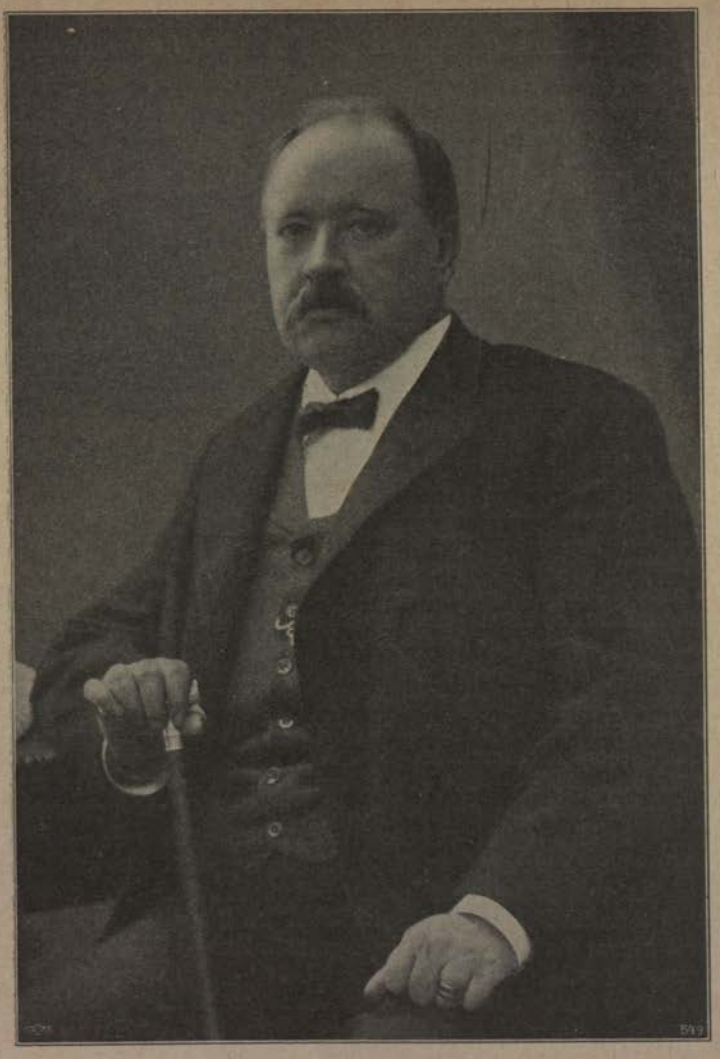
[1] It is a significant fact that out of the total number of *elements* at present known, namely about 75, no less than 20 were discovered by Swedish chemists.



Svante Arrhenius.

From among now living Swedish scientists who by reason of their achievements or their position must be regarded as exponents of chemical science in Sweden, the following shall be mentioned in order of seniority: — *O. Hammarsten* (b. 1841; physiological chemistry); *A. G. Ekstrand* (b. 1846; organic and technical chemistry); *S. O. Pettersson* (b. 1848; physical chemistry; gas analysis); *P. Klason* (b. 1848; organic chemistry; chemical technology); *O. Widman* (b. 1852; organic chemistry; chemical nomenclature); *K. A. H. Mörner* (b. 1854; physiological chemistry); *J. M. Lovén* (b. 1856; organic and physical chemistry); *K. O. M. Weibull* (b. 1856; agricultural chemistry); *S. Arrhenius* (b. 1859; physical chemistry; founder of the electrolytical dissociation theory, which is the basis of modern electro-chemistry, and which, reviving Berzelius' dualistic theory in a modified form, marks a new, rigorously scientific view of chemical

nenomena in general; for these achievements he received the Nobel Prize in 903); H. G. Söderbaum (b. 1862; organic chemistry, agricultural chemistry); K. A. Vesterberg (b. 1863; organic and analytical chemistry); *K. W. Palmær* (b. 1868; electro-chemistry); *D. Strömholm* (b. 1871; organic and physical chemistry); *H. von Euler-Chelpin* (b. 1873; physical chemistry; bio-chemistry); *T. Svedberg* (b. 1884; colloid chemistry). All these men are university professors, or hold official positions at some public institution.

Mathematics.

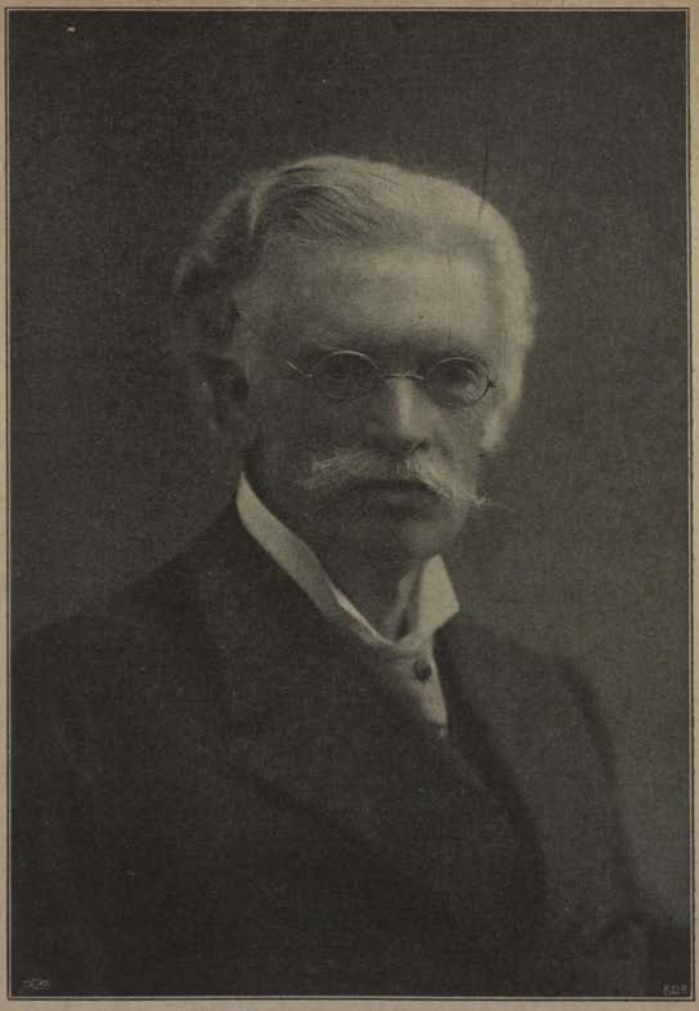
Sweden, which early took up a distinguished position in several of the natural sciences, was late in asserting its position with regard to mathematics. The brilliant and versatile physicist, *S. Klingenstierna* (1698—1765), celebrated principally for his optical discoveries, was an eminent mathematician considering the time in which he lived although he did not achieve any work which may be considered as a link in the general development of mathematics. He occupied a very prominent position as a teacher, and he introduced a system of instruction at Uppsala which, unlike that at most other universities at the time, fulfilled the scientific requirements of that period. The first important discoveries in the department of pure mathematics in Sweden were made by a professor of history at Lund, *E. S. Bring* (1736—98), who carried out the transformation of quintic equations long before the Englishman Jerrard, who for a long time received the credit of priority.

K. J. D. Hill (1793—1875) was a gifted mathematician and a prolific writer on mathematical subjects. *E. G. Björling* (1808—72) and *K. F. Lindman* (1816—1901) are known as investigatiors in the higher analysis and did signal service as the authors of text-books.

K. J. Malmsten's (1814—86) activities constitute an epoch in mathematical studies in Sweden and his position in the history of mathematical science is secured chiefly by his work on Euler's summation formula. As professor at Uppsala (1842—59) Malmsten in a short time raised the instruction in his subject up to the general scientific standpoint of his time. *Hj. Holmgren* (1822—85) aroused attention by his investigation of the differential calculus with indices of all kinds; he possessed also a great talent as a teacher and lecturer. The same may be said of *F. V. Hultman* (1829—79), who, like Björling, did the greatest service to Swedish secondary education. *K. E. Lundström* (1840—69) treated with great acuteness certain problems of the calculus of variations. *H. T. Daug* (1828—88) and *G. Dillner* (1832—1906), both of whom were professors at Uppsala, made contributions, the former in the department of infinitesimal geometry and the latter in the department of the theory of functions and the theory of differential equations.

During recent decades Swedish mathematicians have contributed in a quite remarkable manner to the work of developing mathematical science and in particular with regard to higher analysis. This development was very much promoted by the foundation in 1881 of the University of Stockholm, and by the founding in the following year of the international magazine "Acta Mathematica" at Stockholm by *G. Mittag-Leffler* (see below). This magazine, to which many of the most prominent mathematicians of the present day contribute, occupies a particularly important position in modern mathematical research work. The member of the editorial staff who, next to Mittag-Leffler, has done the most work for it, is *E. Phragmén* (see below).

Although, as already mentioned, higher analysis has, on the whole, held a predominating position, other branches of mathematics have not been left with-



Gösta Mittag-Leffler.

out attention. *K. F. E. Björling* (1839—1910) performed his work principally as a geometrician at Lund and is also important as an author of text-books. *A. V. Bäcklund* (b. 1845) carried out highly valued investigations in geometry and the theory of partial differential equations, before he definitely went over to mechanics and mathematical physics. Among the followers of these mathematicians, who have also devoted attention to geometrical questions, may be mentioned *T. Brodén* (b. 1857; professor at Lund), *A. Wiman* (b. 1865; now professor at Uppsala), and *C. V. Oseen* (b. 1879; now professor at Uppsala). All three have, however, done their principal work in other branches of mathematics. Brodén has, for instance, devoted himself especially to the theory of real functions, while Wiman has directed his attention to higher algebra and to the theory of whole transcendental functions. Work has been carried out by *G. Bucht* (b. 1884; lecturer at Uppsala), in conjunction with Wiman, on the theory of equations solvable with radicals.

M. Falk (b. 1841), late professor at Uppsala, is, by his teaching work and his scientific production, an active advocate for the theory of functions in the form in which it was represented by Weierstrass. As a meritorious investigator of the theory of number may be mentioned *A. Berger* (1844—1901), who was docent at Uppsala. Important research work has been carried out by *E. Holmgren* (b. 1872; professor at Uppsala) in connection with the real theory of partial differential equations. Valuable work on the same subject has also been done by *C. V. Oseen* and *H. G. Block* (b. 1882; docent at Lund).

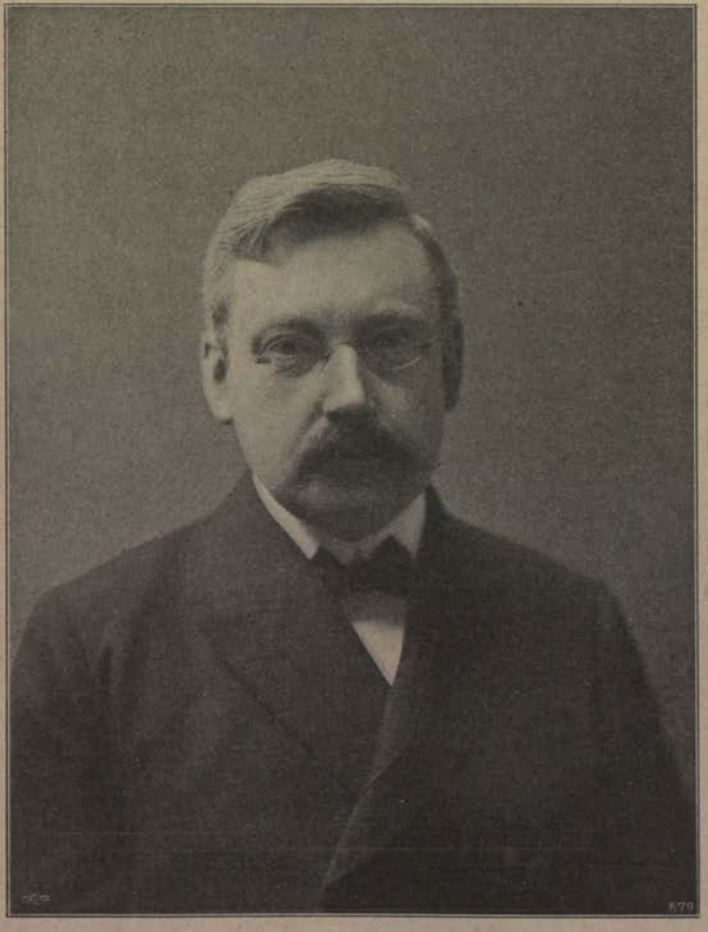
The first teachers of mathematics at the Stockholm University were *G. Mittag-Leffler* (b. 1846) and *Sonja Kovalewski* (1853—91), who was called to the post from Russia. Mittag-Leffler's principal works have been on the problem of analytically representing analytic functions in forms which, without introducing foreign elements, reflect the characteristic qualities of the functions, and also on the formation of entire classes of analytical expressions which represent naturally analytic functions of the most general character possible, while embracing and elucidating the importance of Taylor's series. Among the works of Sonja Kovalewski may be noticed the general integration of a system of partial differential equations and the solution of a new case of the rotation problem by means of analytic functions. Among the other mathematicians who are or have been attached to the Stockholm University may be mentioned: *E. Phragmén* (b. 1863), the author of acute expositions of the theory of functions and the analytical theory of numbers; *I. Bendixson* (b. 1861), the author of profound works on the general theory of functions and the theory of differential equations; *H. von Koch* (b. 1870), known for his investigations on infinite determinants and for his works on the theory of functions and on the occurrence of prime numbers; *E. Fredholm* (b. 1866), whose works have been of fundamental importance for mathematical physics and are more fittingly discussed under that heading; *G. Kobb* (b. 1863), whose principal work is on the calculus of variations; *A. J. Malmquist* (b. 1882) who has carried out acute observations on algebraically integrable differential equations of the first order; *E. Stridsberg* (b. 1871) has carried out detailed investigations on the transcendental functions of arithmetical qualities, as generalisations of the proposition regarding the transcendency of e and π.

In the sphere of the mathematical history *G. Enestrom* (b. 1852) has shown considerable activity as an investigator and as the editor (since 1887) of the international review on the history of mathematics "Bibliotheca Mathematica", which, since being enlarged, has included in its programme questions of practical interest for mathematicians, such as those dealing with terminology, classification, and bibliography.

Mechanics and Mathematical Physics.

Mechanics and mathematical physics have only quite recently obtained an independent position at the Swedish Universities and High Schools. It may, however, be said with a certain amount of justice that the sciences have a long ancestry in Sweden. A good deal of the scientific work performed in past times by Swedish mathematicians falls under the heading of mechanics; while physicists, such as *F. Rudberg* (1800—39), *A. J. Ångström* (1814—74), and *E. Edlund* (1819—88), worked also in the theoretical branch of their subject, with the help of mathematics. The first chair of mechanics at any of the Swedish universities was established at Uppsala in 1873 and was followed shortly afterwards by a similar chair in mechanics and mathematical physics at Lund. Since the year 1893 these subjects have also been independently represented at the Stockholm University.

In a review of Sweden's contribution to the development of mechanics and mathematical physics, it will be necessary first to glance at the mathematical entrance hall of the great educational edifice viz. at the sphere of research which is called by the time-honoured name of "partial differential equations in mathematical physics". One of the most important tasks here encountered is the construction of the so-called fundamental solution of a system of partial differential equations. For one class this task is solved by *E. I. Fredholm* (b. 1866, professor at Stockholm) in connection with a problem on the theory of elasticity. For the equations encountered in hydro-dynamics the same problem is dealt with by *C. V. Oseen* (b. 1879, professor at Uppsala). Finally, *N. Zeilon* (b. 1886) has given a general method which in many cases leads to the object in view. In this connection may be mentioned the works of *H. Petrini* (b. 1863) on the derivatives of the potential functions.



Ivar Fredholm.

By means of the method of fundamental solutions a great many mathematical problems, important from the point of view of mathematical physics, are reduced to a single task, viz. the solution of a so-called linear integral equation.

The general solution of this problem was given in 1900 by Fredholm. No mathematical work performed in Sweden has had such a powerful influence on international science as this solution of Fredholm's. Thereby the theory of linear integral equations became for a decade one of the most important and eagerly studied chapters of mathematics.

In the sphere of rational mechanics may be mentioned the famous discovery of *S. Kovalewski* (1858—91) of a new solvable case with regard to a solid body's rotation round a point. A pupil of Mrs Kovalewski is *G. Kobb* (b. 1863, professor at the Technical High School).

No branch of mechanics or of mathematical physics has been the object of so much interest as hydro-dynamics. This applies as much to older as to modern and quite recent times. One would hardly be wrong in attributing this to the influence exerted on the inhabitants by the water which surrounds Sweden, and by the numerous lakes and rivers. It was on the science of hydro-dynamics that *A. V. Bäcklund* (b. 1845), under the influence of the Norwegian *K. A. Bjerknes* (1825—1903), based his effort to explain electro-magnetic and many other phenomena from a mechanical point of view. In the sphere of hydro-dynamics *V. F. K. Bjerknes* (b. 1862) worked actively during the time (1893—1907) that he belonged to Sweden. A pupil of Bjerknes' is *J. W. Sandström* (b. 1874), whose work, however, belongs rather to meteorology and hydrography. *V. W. Ekman's* (b. 1872, professor at Lund) principal works (the influence of the earth's rotation upon sea currents, the phenomenon of dead-water etc.) fall under hydro-dynamics. The same may be said of Oseen's work (turbulence phenomenon, Stokes' formula etc.). Various hydro-dynamic problems have been treated by *N. Lindskog* (b. 1858), *O. Olsson* (b. 1861), and by Zeilon.

Contributions to the development of the theory of elasticity have been made by *O. Josephson* (b. 1870) and by *H. Grauers* (b. 1869, professor at the Chalmers' Polytechnical College).

In the sphere of theoretical optics may be specially mentioned the extensive, geometrical-optical works of *A. Gullstrand* (b. 1862, professor at Uppsala, Nobel Prize in medicine in 1911), which are of great practical importance. Physical optics have been studied by *G. Lundquist* (b. 1841), who has also worked on the theory of heat.

With regard to the theory of electro-magnetism, *H. B. M. Pleijel* (b. 1873, professor at the Technical High School has contributed important practical and theoretical works on the transmission of electric waves in wires and on the galvanic cell.

Astronomy.

It is not until the middle of the 17th century that we find astronomical research represented to any remarkable extent in Sweden. In 1649 the first astronomical observatory was founded by *B. Hedraeus* (1608—59), professor of mechanics at Uppsala, who appears to have made astronomical instruments in his own workshop. He also published a work, which was printed at Leyden, on the astrolabe. *A. Celsius* (1701—44) founded a new observatory at Uppsala (1740), which was well supplied with instruments. When the French expedition went to Lappland in 1736, under the direction of Maupertuis, in order to measure a degree of longitude, Celsius took part in it as a volunteer. He was also the first to draw attention to the influence of the aurora borealis on the magnetic needle. In 1753, the year in which the Gregorian Calendar was introduced in Sweden, observatories were established at Stockholm [1] and Lund. *P.*

[1] The foundation stone of the Stockholm observatory was laid in 1748 and the observatory was inaugurated in 1753.

Wargentin (1717—83), first director of the Stockholm observatory, carried out extensive observation work, fixed the latitude of the observatory and its difference in longitude from Paris, cooperated in 1751 with observers at the Cape, London, and Berlin in corresponding observations for determining the parallaxes of the sun and moon, and observed the passages of Venus at Stockholm in 1761 and 1769. The reputation which he enjoyed among his contemporaries was founded chiefly on the tables which he constructed for Jupiter's satellites.

Anders Celsius.

At the beginning of the 19th century the initiative was given by *D. Melanderhjelm* (1726—1810) of Uppsala for a new measurement of a degree in Lappland (1801—03), which was carried out by *J. Svanberg* (1771—1851). A few decades later (1850—51) this was succeeded by a Scandinavian-Russian measurement of a degree from Torneå to Fuglenaes (near Hammerfest in Norway), which was conducted by *N. H. Selander* (1804—70) of Stockholm, *J. M. Agardh* (1812—62) of Lund and *D. G. Lindhagen* (1819—1906), the last-named being at the time engaged at the Pulkova Observatory and participating as a Russian delegate. Lindhagen, after having been appointed to the Stockholm Observatory, carried out, in conjunction with Fearnley of Christiania and Schjellerup of Copenhagen, the mensuration of longitudes between the observatory at Stockholm and the other towns mentioned. From the beginning of the century geodetic-topographical work was taken up with increasing interest. *S. A. Cronstrand* (1784—1850) and *K. P. Hällström* (1774—1836) took an active part in this work by astronomical determinations for a map of Sweden. *Selander* and *P. G. Rosén* (1838—1914), late professor of the Topographical Section of the General Staff at Stockholm, have conducted and promoted geodetic work in Sweden, which has, since 1863, formed an integral part of the activities of the "International Measurement of the Earth".

Side by side with the above-mentioned measurements and observations, scientific research work has been carried on with success. *E. Prosperin* (1739—

1803) is known for his much-used table of comets, containing a list of the older comets from 837 A. D. to 1795, together with determinations for them when in closest proximity to the earth. *J. Bredman* (1770—1859) published, in the middle of the century, a comprehensive manual on "The Principles of Theoretical Astronomy". *G. Svanberg* (1802—82) did great service to Swedish astronomical research by the erection of a new observatory at Uppsala, which was completed in 1853. *H. Schultz* (1823—90) was an assiduous observer, highly esteemed for his "Micrometrical Observations of 500 Nebulæ", for his measurements of clusters of stars, and for his participation, on behalf of Uppsala, in the corresponding observations of the planet Mars in 1862, for the purpose of determining the solar parallax. *N. Kr. Dunér* (1839—1914), his successor as director of the Observatory, published: "Mesures micrométriques d'étoiles doubles", "Sur les étoiles à spectres de la troisième classe", and "Sur la rotation du soleil". At the beginning of the nineties of last century, Dunér provided the observatory with a new double refractor from Repsold and a new dome. A new observatory was established at Lund during the sixties, under the direction of *D. M. A. Möller* (1830—96), known for his researches with regard to the Faye-Möller comet. The Stockholm Observatory was enlarged towards the close of the seventies, after the Finnish astronomer *J. A. H. Gyldén* (1841—96) had, in 1871, been appointed its director. Gyldén devoted himself principially to the theory of perturbations and recorded the results of his extensive studies on this subject in a number of short essays and in a larger work, "Traité analytique des orbites absolues des huit planètes principales", of which two parts have been published.

The present directors of the three observatories are: Prof. Bergstrand at Uppsala, Prof. Bohlin at Stockholm, and Prof. Charlier at Lund. *Ö. Bergstrand* (b. 1873) has carried out investigations regarding the parallaxes of stars, particularly with respect to Nova Persei, with regard to atmospheric dispersion and on the Uranus system. *Karl Bohlin* (b. 1860) has published investigations regarding the orbit of Tetys, the third satellite of Saturn, on Winecke's comet; on the new star Nova Persei 1901; the structure of the Milky Way; the areography of the planet Mars; the quintic equation in connection with investigations on the integral developments of the problem of three bodies; and has also published "Formeln und Tafeln zur gruppenweisen Berechnung der allgemeinen Störungen benachbarter Planeten". *C. V. L. Charlier* (b. 1862) has published a comprehensive work on Jupiter's perturbations of Thetis, has conducted investigations in Celestial mechanics, on the causes of the glacial epoch, theory of probability, recent researches in optics etc., and has also published "Vorlesungen über die Mechanik des Himmels".

Since 1850 the Stockholm Observatory has issued its own publication, "Astronomiska iakttagelser och undersökningar, anställda på Stockholms observatorium" (Astronomical Observations and Investigations conducted at the Stockholm Observatory); the Lund Observatory publishes "Meddelanden från Lunds astronomiska observatorium" (Notices from the Lund Astronomical Observatory).

Swedish astronomers have also been appointed in foreign countries, especially at the Observatory of Pulkova (Russia). Since 1895 the post of director of this observatory has been held by *J. O. Backlund* (b. 1846), known for his investigations on the comet Encke. The vice-directorship was also held for a time by a Swedish astronomer, *M. Nyrén* (b. 1837), who has rendered service to the science of astronomy by his determination of the so-called precession- and aberration-constants.

Meteorology and Hydrography.

From early historical times only scanty information is available regarding times of unusual heat or cold, wet weather or drought, good or bad harvests etc., from which approximate data regarding climatic conditions can be collected. The oldest regular meteorological observations carried out in any place within the present boundaries of Sweden are those set on foot by the celebrated Danish astronomer, Tycho Brahe, in 1582—97, at his observatory at Uranienborg, on the island of Ven, which belonged to Denmark until 1658. The first regular meteorological observations carried out by Swedes were arranged between 1720 and 1740, with the support of the Society of Sciences of Uppsala, by *E. Burman* (1692—1729) and *A. Celsius* (1701—44), first at Uppsala and subsequently at various other places in Sweden. The lack of exact thermometers, however, detracted considerably from the value of those observations. It was not until the middle of the eighteenth century that better conditions began to prevail, after Celsius and Linnæus had graduated the Centigrade thermometer. We possess fairly good observations from Uppsala, with some gaps, since 1739, from Stockholm since 1754, and from Lund since 1740. Barometers and rain-gauges were also used, but the observations taken with these instruments have little value as regards modern requirements.

At an even earlier date, Swedish scientists had investigated the question of the connection between the level of the waters of rivers and lakes and the weather, and also the rise of the land, or the so-called diminution of the water. *U. Hjärne* (1641—1724) raised this question in 1694. *E. Swedenborg* (1688—1772) and *D. Tiselius* (1682—1744) studied it about 1720, and *B. Wassenius* (1687—1771) has left us several essays containing an essentially correct explanation of this connection, based on many years' observations of the weather and of the level of Lake Vänern. We possess several fairly complete series of measurements of the level of the water in some of the largest watercourses in Sweden, dating from the second half of the 18th and the first half of the 19th century.

On the invitation of the "Societas Palatina", founded at Mannheim in 1780, the Academy of Sciences arranged, in 1785, for regular meteorological observations to be made at the principal educational institutions in the country under the supervision of the lecturers in mathematics. In this way valuable series of observations have been made extending over many years, although in some cases the gaps are numerous. Private individuals have also carried out highly valuable observations dating from this time.

In the years 1848 to 1852, *A. Erdmann* (1814—69), in conjunction with *J. H. Kreuger* (1782—1858), instituted regular meteorological and hydrographical observations at twenty stations, namely Skeppsholmen at Stockholm, Kungsholmen at Karlskrona, and 18 lighthouses, 11 of which were provided with a wind-gauge constructed by Kreuger. In 1850, these observations were placed under the supervision of the Academy of Sciences. In 1858, *E. Edlund* (1819—88) established a system of so-called Second Class Stations, with meteorological observations three times a day on the barometer and the dry bulb and wet bulb thermometers, and with regard to the direction and force of the wind, clouds, atmospheric precipitation, fog, dew, hoar frost, thunderstorms, aurora borealis, etc., together with observations on maximum and minimum thermometers and measurements of the precipitation once every twenty-four hours. These observations have been continued since that time on almost the same plan, except for a few subsequent extensions, new stations having been gradually added. From the year 1873, they have been under the supervision of the *Central*

Meteorological Office of Stockholm, which was established in that year; this institute is under the supervision of the Academy of Sciences and its object is, firstly, to superintend, edit, and publish the meteorological investigations made under its control, and secondly, to maintain a telegraphic meteorological service, with the object of keeping the public informed as fully and as reliably as possible with regard to present and approaching weather, especially in the interests of navigation and agriculture. Weather forecasts for the following day began to be published in 1880 and storm warnings on the west coast of Sweden as late as 1905. These were gradually extended to the south coast, and in 1913 it was decided to arrange a similar service for the east coast. The storm warning stations were established by *F. Trybom* (1850—1913) in the interests of fishery, and are superintended by the *Agricultural Board* in conjunction with the Central Meteorological Office; in 1912, there were 46 such stations, in 12 of which special wind observations were carried out as a check on the storm warnings. The directors of this office have been *R. Rubenson* (1829—1902), *H. E. Hamberg* (b. 1847) director from 1902 to 1913, and *N. Ekholm* (b. 1848) from 1914.

In 1865, a series of meteorological observations was instituted at Uppsala under the supervision of *G. Svanberg* (1802—82) and under the direction of *Rubenson* for every hour of the day; these observations were carried out by voluntary observers, mostly students. In 1868, these were replaced for the most part by self-recording instruments, constructed by *A. G. Theorell* (1834—75). A number of phenomena, such as clouds, thunderstorms, and the aurora borealis, necessarily continued, however, to be registered by personal observation. In this manner arose at Uppsala a so-called First Class *Meteorological Observatory*, the first of its kind in Sweden. From 1873 to 1907, the director was *H. H. Hildebrandsson* (b. 1838), who was succeeded by *F. Akerblom* (b. 1869). In 1878, this observatory, which up to that time had formed part of the astronomical observatory, became an independent institution, and its director was appointed professor of meteorology.

In 1870, *K. B. Lilliehöök* (1809—90) established a regular system of observations with respect to the ice conditions in Swedish navigable waters, which observations were carried out by officials under the Pilotage Board (Lotsstyrelsen).

At the beginning of the seventies of last century, *Hildebrandsson*, in conjunction with local agricultural societies, instituted a system of so-called Fourth Class Stations, at which notes were taken as to ice conditions, thunderstorms, and frosty nights, and on phenomena connected with the vegetable and animal kingdoms. Subsequently this system was placed under the supervision of the Central Meteorological Office. At the same time he established an international system of observations of the movement of clouds, in particular of cirrus clouds. In 1878, *H. E. Hamberg* also in conjunction with the local agricultural societies, instituted a system of so-called Third Class Stations, principally for the purpose of taking daily measurements of atmospheric precipitation, but also partly for observing the temperature of the air, etc. This system is likewise under the superintendence of the Central Meteorological Office. During the years 1876—97, *Hamberg* conducted at this institute a special investigation into the influence of the forests on the climate of Sweden.

In 1878, a *Nauticco Meteorological Office* was founded, which assumed the superintendence of the above-mentioned stations established by Erdmann and Kreuger and was at the same time charged with the task of supervising the meteorological observations made there and at a number of other lighthouses and on sea-going vessels, while conducting a number of measurements of the water-level and other hydrographical observations on the coast and in the lakes of Sweden. In addition, since the middle of the nineteenth century,

regular observations with regard to wind and weather have been carried out, now under the direction of the Pilotage Board, at all large lighthouses. Wind-gauges are now to be found at various lighthouses and at most of the above-mentioned stations for the control of storm warnings.

The Lund Astronomical Observatory has possessed, since the nineties of last century, a number of self-recording meteorological instruments, while, since 1907 Stockholm has had three stations, provided by the town, which are equipped with self-recording instruments, namely those at the Epidemic Hospital, at Slussen, and at Skanstull. At these three stations measurements are made of the temperature and humidity of the air and of atmospheric precipitations, at the two former also of the direction and velocity of the wind, at the Epidemic Hospital observations with regard to sunshine, and at Skanstull with regard to atmospheric pressure. There has also been a meteorological station at Kiruna for some years past, provided with several self-recording instruments. In 1905, the Stockholm Association of Natural Sciences, in conjunction with the Academy of Sciences, erected at the Vassijaure scientific station, near the railway station of Riksgränsen, a First Class Meteorological Observatory, at the expense of a number of patrons of science, which carried on work there until the end of 1912, when it was removed to Abisko on Lake Torne (Torne Träsk). For the purpose of investigating meteorological conditions in the high mountains of Lappland, *A. Hamberg* (b. 1863) has established, partly at his own expense and partly with the help of State grants, several stations with self-recording instruments north of Kvikkjokk at various heights above the sea-level, the highest being situated on Pårte-tjåkko, 1 850 meters above the level of the sea; he also attempted to institute a similar station at the very summit of this mountain, at a height of 2 003 meters above the sea, but was obliged to remove it, as the occasional, extraordinarily great formations of hoar frost rendered the instruments out useless.

In 1912, Sweden possessed the following stations at which meteorological observations were made: 2 first class stations, one at Uppsala and one at Vassijaure; 5 stations with more or less complete sets of recording instruments, 3 at Stockholm, 1 at Lund, and 1 at Kiruna; 57 second class stations (of which 2 were private and 20 were located in lighthouses); 101 temperature stations; 633 atmospheric precipitation stations (of which 23 were lighthouses); observations were also made and noted at a great number of stations in respect of the formation and breaking up of the ice, thunderstorms, phenomena in the vegetable and animal kingdoms dependent on the weather, such as times for blossoming and formation of fruit, the times when the trees burst into leaf and when the leaves fell, for agricultural operations, such as, sowing and harvesting etc., of the arrival and departure of birds of passage, of the appearance of reptiles, insects, etc.

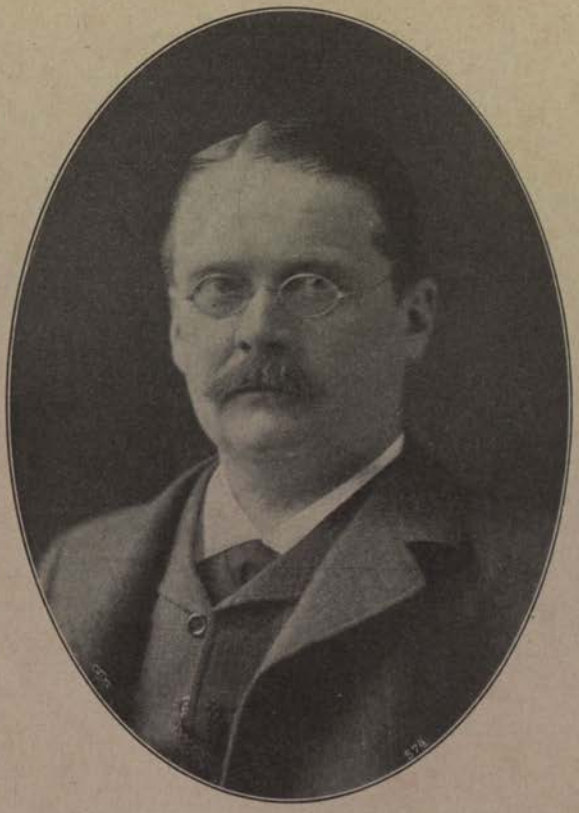
Investigations with regard to the climate of Sweden have been published by *F. V. Ehrenheim* (1753—1828), *Edlund*, *Rubenson*, *Hildebrandsson*, *H. E. Hamberg*, *N. Ekholm* etc., and on dynamical meteorology by *Hildebrandsson*, *H. E. Hamberg*, *N. Ekholm*, and others. Several of these investigations have been put to practical use, for instance for the weather service of the Central Meteorological Office. Of practical importance are also the investigations begun by *O. Pettersson* (b. 1848) and *Hildebrandsson* with regard to the reciprocal effect of average weather conditions at widely distant places, the former of whom made his investigations in conjunction with hydrographical work, and the latter according to a purely meteorological method. Important investigations from the point of view of dynamical meteorology and hydrography have been carried out by *V. Bjerknes* (b. at Christiania in 1862; teacher at the Stockholm University) and his pupils, *V. Ekman* (b. 1874) and *J. V. Sandström* (b. 1874).

The scientific expeditions arranged by Swedish scientists, with the support of patrons of science and partly with the help of State grants, have been of great importance for meteorology, especially since *A. E. Nordenskiöld* (1832—1901) had the happy idea in 1872—73 of equipping his wintering station at Mossel Bay in Spitzbergen as a first class observatory, as also the "Vegas" wintering station at Pitlekaj in 1878—79. We may also mention the physico-meteorological station at Cape Thordsen in Spitzbergen 1882—83, under the direction of *N. Ekholm*, which formed the Swedish contribution to the international polar research work simultaneously carried out by Swedes, Norwegians, Dutchmen, Germans, Austrians, Russians, Englishmen, Frenchmen, and North Americans in 1882—84. Important meteorological observations were also carried out during *A. G. Nathorst's* (b. 1850) polar voyage to Spitzbergen and Kung Karl's Land in 1898 and to north eastern Greenland in 1899, during the Swedish expedition for measuring degree of the meridian on Spitzbergen in 1899—1900 at Treurenberg Bay by *J. Westman* (b. 1867), during *O. Nordenskjöld's* (b. 1869) South Pole expedition in 1901—03 at Snow Hill, south of Cape Horn, and by *S. Hedin* (b. 1865) during his journeys of discovery in Asia, in 1894—97, 1899—1902, and 1906—08. The meteorological and magnetic observations made on an exact plan during S. A. Andrée's polar expeditions in 1896 and 1897 have unfortunately been almost all lost. In most of the above-mentioned expeditions not only hourly observations were made of the ordinary meteorological and terrestrial magnetic phenomena, but special observations were also made, with regard, for instance, to the height and movements of clouds, the height of the tide, humidity of the air, atmospheric electricity, aurora borealis, etc. In addition to those mentioned above, the following scientists have also taken part in this work: *A. Wijkander* (1849—1913; terrestrial magnetism, meteorology etc.), *S. A. Andrée* (1854—97, atmospheric electricity etc.), *E. Solander* (b. 1858, terrestrial magnetism), *V. Carlheim-Gyllensköld* (b. 1859, aurora borealis, terrestrial magnetism etc.), *A. Hamberg* (maritime hydrography, meteorology), *F. Åkerblom* (meteorology and hydrography), and *G. Bodman* (b. 1875, meteorology). Measurements of the height and movements of clouds were taken at Cape Thordsen in Spitzbergen in 1883 by *Ekholm*, and at Uppsala in 1884—87 by the same scientist and *K. L. Hagström* (b. 1855) and others. At the International Meteorological Congress, held at Munich in 1891, it was resolved at Hildebrandsson's suggestion that such measurements should be made simultaneously at many different places; for Sweden they were made at Uppsala by *J. Westman* and *A. Lundal* (b. 1864). Investigations with regard to the classification of clouds and respecting the upper currents of air have been carried out by *Hildebrandsson* and others. *Andrée*, in nine balloon voyages undertaken in the years 1893—95 in Sweden, made valuable observations with regard to the nature of the upper atmospheric regions. Nature's economy of heat as regards sunshine and the radiation and absorption of the earth and of the atmosphere has been investigated by *K. Ångström* (1857—1910), *S. Arrhenius* (b. 1859), *N. Ekholm*, *J. Westman* and others.

Rubenson has prepared an extensive catalogue of all the observations with regard to the aurora borealis made up to the year 1877 inclusive. With the assistance of these and other observations, *Arrhenius* and *Ekholm* have revealed or closely investigated two important periods of considerable amplitude in the polar lights (Aurora Borealis and Australis), atmospheric electricity, and thunderstorms, the one dependent on the tropical time of revolution of the moon, and the other on an unknown cause, perhaps on the rotation of the sun. *Arrhenius* has also shown that the great changes in climate which have taken place on the earth during early geologic times may be explained principally by comparatively small changes in the quantity of carbon-dioxide contained in

the atmosphere. The question of changes in climate has also been investigated on the same lines by *Ekholm*.

The official year books are "Bulletin mensuel de l'observatoire météorologique de l'université d'Upsal"; "Meteorologiska iakttagelser i Sverige, utgivna av Kungl. Svenska vetenskapsakademien, anställda och utarbetade under inseende av Meteorologiska centralanstalten" (Meteorological Observations in Sweden, published by the Royal Swedish Academy of Sciences, carried out and elaborated under the supervision of the Central Meteorological Office). A semi-official paper was published by *H. E. Hamberg*, 1881—1913, entitled: "Månadsöversikt av väderleken i Sverige, till lantbrukets tjänst utgiven under Meteorologiska centralanstaltens inseende" (Monthly Review of the Weather in Sweden, published for the purposes of agriculture, under the supervision of the Central Meteorological Office). From 1914 this review has been published by *N. Ekholm* and is an official paper of the Central Meteorological Office. Since March, 1914, a weather report, entitled *Väderleken i Norra Europa*, has been published there twice every day in a small edition and is sent to the principal home and foreign meteorological institutes.



Otto Pettersson.

The **hydrographical investigations** which are at present proceeding in the waters surrounding Sweden are of great interest. This work was begun by *F. L. Ekman* (1830—90) and has since been continued by *A. Wijkander* (1849—

1913), *O. Pettersson* (b. 1848), *G. Ekman* (b. 1852), *J. V. Sandström* (b. 1874), *H. Pettersson* (b. 1888) and others, with the assistance, as far as the biological part of the work is concerned, of *K. Aurivillius* (1854—99), *P. T. Cleve* (1840—1905), *F. Trybom* (1850—1913), and others. During the period from 1893 to 1901, these investigations were conducted by a *hydrographical commission* under the supervision of the Academy of Sciences. Since 1901, however, they have been carried out, in accordance with a common international scheme, under the direction of the *Hydrographical Biological Commission*, which was established by a decree of the Government on January 25th, 1901. Besides Sweden, Russia, Finland, Germany, Denmark, Norway, England, Belgium, Holland and the United States take part in this international work. To Mr O. Pettersson is mainly due the credit for this organization; at a hydrographical congress which met at Stockholm in 1889 he brought forward the plan of conducting investigations on an international basis. By his numerous scientific works and by the invention of new apparatus for carrying out the investigations, he has also contributed to a great extent to the valuable theoretical and practical results that have been obtained.

A. Hamberg (b. 1863), *F. Åkerblom* (b. 1869), *N. von Hofsten* (b. 1881), and others have likewise contributed to the development of the science of oceanography, by means of hydrographical investigations in the Arctic seas.

In view of the fact that hydrographical research in the rivers and lakes of Sweden is not only of scientific interest, but also of great importance for agriculture, industry, forestry, navigation, road building hydraulic engineering, etc., support has been granted since 1870 by the State, agricultural societies, communes, and private persons to such research, and works on the subject have been published by *O. Appelberg* (1852—1902), *G. Nerman* (1827—1913), *L. Rosén* (b. 1843), *J. G. Richert* (b. 1857), *O. Z. Ekdahl* (b. 1858), *V. E. Lilienberg* (b. 1839), *A. Hamberg* (b. 1863), *A. Wallén* (b. 1877), *A. Hennig* (b. 1864), *J. Westman* (b. 1867), *R. Smedberg* (b. 1880), *J. V. Sandström* (see above), and others. It was only in the Riksdag of 1907 that a systematic organization of these investigations throughout the whole country was decided upon and it was decreed by a Royal letter of November 15th of the same year that a hydrographical investigation of the Swedish inland waters should be conducted under the direction of a *Hydrographical Bureau* established specially for the purpose, with cooperation of the State Central Meteorological Office as regards the requisite meteorological observations, and of the Geological Survey of Sweden as regards special hydro-geological investigations. A. Wallén (see above) was appointed the first director of the bureau. The new organization is now fully established and the results are published in the form of annual reports, descriptions of rivers and communications, in addition to which the bureau cooperates with the Board of Waterfalls in the publication of a work which will gradually embrace the waterfalls of the entire country.

It is also of importance for hydrographical research that a chair in oceanography was established in 1914 at the Gothenburg University, the first professor to be appointed being H. Pettersson (see above).

Scientific Travels. Geography.

Ever since the days of the Vikings, travel in unknown, remote regions seems to have offered special attractions to Swedes, and never more so than now Yet these journeys have not always aimed at direct geographical discovery and investigation, though, the other hand, it is certain that not many nations, in comparison to their numbers, have sent out so many exploring expeditions in

connection with various special sciences as the Swedes, and this without having any *practical* objects in view. We may now commence with a description of certain explorations of the kind, which have had — directly or indirectly — geographical importance.

Adolf Erik Nordenskiöld.
By G. von Rosen.

In the great geographical discoveries at the dawn of modern times Sweden took no part worth mentioning. Within the boundaries of the country itself, however, in its northern districts, and more especially Lappland, colonizing work of a very extensive character has fallen to its lot. The first to give any account of those regions was *Olaus Magni* (1490—1558); he traversed Northern Skandinavia in 1518—19, penetrating at least as far as Över-Torneå. The large map of the Northern Regions, published by him at Venice in 1539, and still more his

"Historia de Gentibus Septentrionalibus", printed in Rome in 1555, attracted very great attention in the rest of Europe. During the succeeding years, still increased attention was paid to the North of Europe by reason of frontier disputes. The first detailed map of North Sweden was issued in 1611 by *A. Bureus* (1571—1646). Lappland was the destination of the first scientific expedition from Sweden, despatched by King Charles XI in 1695; *J. Bilberg* (1646—1717) and *A. Spole* (1630—99), astronomers, and the renowned *Olof Rudbeck*, the younger (1660—1740), botanist, participated in it.

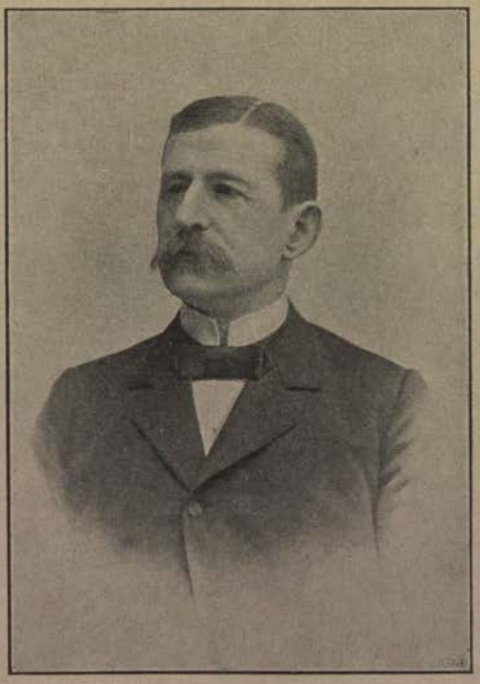
During the Epoch of Greatness in Sweden, the range of the people's vision was extended beyond the boundaries of their own country; but their attention was too fully engrossed on European battlefields to admit of any thought being given to countries farther distant and still unexplored. Nor did attempts to found colonies in this epoch, such as that of New Sweden, on the Delaware River, which existed from 1638 to 1655, or that of Cabo Corso on the coast of the Gulf of Guinea, where a new settlement lasted from 1650 to 1663, succeed in materially increasing the geographical knowledge of those far distant parts. The descriptions, however, that were given by Swedish pastors, who, even after political ties with the mother country had been severed, continued to be sent thither, are by no means of little value. The wars of Charles XII brought Sweden into closer contact with the East. By order of the King, *Kornelius Loos* (died 1738) visited Egypt, Syria, and Asia Minor in 1710—11, bringing back from his travels maps, plans, and sketches; *M. Eneman* (1676—1714) also traversed the same regions in 1711—13, principally for the pursuit of linguistic studies. The numerous Swedish prisoners conveyed to Siberia after the battle of Poltava greatly contributed to the knowledge of that country and the interior of Asia. Foremost among that band of geographical pioneers by force of circumstance stands *J. F. von Stralenberg* (1676—1747), who constructed a large map of Siberia; *J. B. Müller* contributed descriptions of ethnographical interest of East Yakuts, *A. Molin* gave an account of the peoples inhabiting the most easterly regions of Asia, among others of the Chukchi, while *L. Lange*, after having entered the Russian service, visited China four times between the years 1715 and 1737.

When *Linné* had revived the study of the natural sciences, expeditions of discovery on a comprehensive scale were undertaken, on his initiative, to various parts of the globe. In 1732, he himself made a journey into Lappland; *P. Kalm* (1716—79) travelled in North America, 1748—51; *F. Hasselqvist* (1722—52) made journeys in Egypt and Palestine, 1749—52; *P. Osbeck* (1723—1805) went to China, 1750—52; *P. Löfling* (1729—56) was in Spain and South America, 1754—56; *A. Martin* (1729—86) went to the Arctic Ocean in 1758; *P. Forskål* (1732—63), to Arabia, 1761—63; *K. P. Thunberg* (1743—1828), to the Cape of Good Hope, Java, and Japan, 1770—79; *D. Solander* (1735—82) was with James Cook on his first voyage round the world, 1768—71; and *A. Sparrman* (1748—1820) accompanied him on his second, 1772—75. Here should be mentioned, too, *O. Swartz* (1760—1818), who visited the West Indies and portions of the American continent in 1783—85. Purely geographical discoveries were not included in the plan of these journeys, but the results that were attained have been of very great moment for many branches of modern geography, and by their means the foundation was laid for scientific explorations of later date from Sweden.

Of greater importance in this respect than any of those yet named was, however, *G. Wahlenberg* (1780—1851). On four journeys in Lappland (1800—10) and on expeditions in Switzerland and among the Carpathian Mountains, he made numerous and reliable calculations of altitude and such other important observations, especially in botany, that he has been accredited, along with Humboldt,

with having created the science of plant-geography. In the first half of the 19th century, the number of scientific explorers going to various parts of the world from Sweden was considerable. Foremost among them stood *J. A. Wahlberg* (1810—56), who chose South Africa as his field of study. On his first journey (1839—44), he visited Natal, Zululand, and what is now the Transvaal; on a later journey in 1854 he started for the interior from Walfish Bay and penetrated as far as 17° 41′ S Lat., but was killed by an elephant on March 6, 1856.

In an account of geographical expeditions despatched from Sweden those to the **North Polar regions** are the first to be met with. In this sphere, the method pursued by Swedes, following Linné and his pupils, has won its best laurels. Their expeditions, almost always equipped with a full staff of scientific specialists, have laid the foundation of all modern scientific polar explorations, while at the same time they have achieved the best results geographically. They have likewise been the best of schools for Swedish naturalists.



Salomon August Andrée.

The first start in Swedish Polar Exploration was made in 1837 when Spitzbergen was visited by *S. Lovén* (1809—95). Enterprises were led later to Iceland in 1857 by *Otto Torell* (1828—1901), the first journey to Spitzbergen in 1858 of Torell and *A. E. Nordenskiöld* (1832—1901), one to Greenland by Torell in 1859, followed by the great Spitzbergen Expedition of 1861, under the lead of Torell, with Nordenskiöld and eight other naturalists on board; they made a thorough investigation of the northern and western portions of the archipelago. The third and fourth Spitzbergen Expeditions started in 1864 and 1868, under the leadership of Nordenskiöld. During the latter, in the iron steamer "Sophia", a latitude of 81° 42′ N was reached that year, a record being thereby

established for observations on shipboard. In 1872, Nordenskiöld started off once more to Spitzbergen at the head of a larger expedition, to try, if possible, to get yet farther north. The plan drawn up was, after wintering, to start off north, in the Spring, from the northernmost parts of the archipelago, employing reindeer. Certain mishaps that could not have been foreseen reduced this project to an excursion across the inland-ice in the North-East, undertaken by Nordenskiöld and *L. Palander* (born 1842); it was the first considerable exploration of its kind ever accomplished.

Spitzbergen and the adjacent islands having been in their main features explored by these journeys, Nordenskiöld next (in 1875) turned his attention eastwards to the Kara Sea, which had up to that time been regarded with so much dread. In the year named, he reached the mouth of the Yenisei in a sealing vessel and repeated the experiment a year later with the same success, this time in a steamer. By this means the first communication by sea was established between Europe and the great rivers of Siberia. The experience thus gained giving support to the supposition of a North-East Passage being feasible, Nordenskiöld carried through the celebrated expedition named after the vessel engaged, the "Vega". Under the command of *Palander* and with a large staff of scientists on board, the vessel left Karlskrona, on June 22, 1878. Their expectations proved to be justified throughout: the ice-free coast waters of northern Asia allowed the Vega rapidly to pass the mouth of the Yenisei, the northernmost point of Asia, and the mouth of the Lena, serious inconvenience from ice not being encountered till in the vicinity of the Behring Straits. The Vega wintered, however, quite successfully from Sept. 18, 1878, to July 18, 1879. Only a few days after release from the ice, the Vega completed the North-East Passage. Her voyage home was one splendid triumphal procession, in acknowledgment of the accomplishment of one of the grandest exploits of the century in the domain of geographical discovery. The contributions made by Sweden, as was to be expected, did not cease with the success of this, the most glorious of all expeditions hitherto despatched from Sweden.

Of the greater exploration-expeditions sent out since that must be mentioned A. E. Nordenskiöld's expedition to Greenland in 1883, the first that penetrated through the pack-ice and reached the south east coast, and the first to penetrate over inland ice to the heart of the country: it was likewise the first to introduce skis as a means of polar exploration: and *A. G. Nathorst's* (born 1850) great explorations in Spitzbergen and King Charles' Land (1898) and the east coast of Greenland (1899), during which latter journey the deep Frans Josef fjord and an extensive, newly discovered system of fjords south of it — the King Oscar fjords — were charted besides which he made a comprehensive collection of scientific material. Moreover a very extensive work for the measurement of the degree of latitude was carried on at Spitzbergen in cooperation with a Russian expedition (1898—1902), led on the Swedish side first by *E. Jäderin* (born 1852) and later by *Gl De Geer* (born 1858). Undertakings smaller in extent include A. E. Nordenskiöld's first and fruitful expedition to Greenland in 1870, journeys to Spitzbergen by Nathorst, de Geer and *A. Hamberg* (born 1863), the meteorological expedition that passed the winter at Spitzbergen (1882—83), under the leadership of *N. Ekholm* (born 1848), *G. Nordenskjöld's* (1868—95) exploration for the same purpose 1890, expeditions to Greenland by *G. Kolthoff* (1845—1914), and *O. Nordenskjöld* (born 1869), to Beeren Eiland 1899 by *J. G. Andersson* (born 1874) and a fresh expedition to the Icefjord of Spitzbergen under de Geer 1908, to which must be added no few explorations with more special purposes, made to Greenland and Spitzbergen; among those may be mentioned several voyages by *B. Högbom* (born 1888).

In the year 1895, *S. A. Andrée* (1854—97?) brought forward his bold idea of

Photo. A. MALMSTRÖM, Stockholm.

Sven Hedin.

reaching the North Pole by balloon, a plan based upon observations he had made, in a number of ascents, of the dirigibility of balloons by means of tailropes. A large expedition was organized in 1896 for the execution of the plan and embarked for Spitzbergen; on their arrival there, a large balloon-house was erected on Danish Island, but it was not until the following year that Andrée succeeded on July 11, 1897, in sailing away towards the pole with two comrades in his balloon the Eagle (Örnen). Since that date no reliable information as regards Andrée's expedition has come to hand, save such as is afforded by certain drift-buoys, thrown out of the balloon, and by a carrier pigeon, discovered north of Spitzbergen, bearing a message to the effect that, on July 13 at noon, the balloon had reached a latitude of 82° 2′ N and was at 15° 5′ E. All search for the expedition has unfortunately proved fruitless. Andrée's expedition, however, deserves admiration, not only for careful planning and boldness, but also because, in fact, it appears to have proved that even then the balloon was serviceable in polar exploration, although a misfortune supervened, probably on the way back to Europe.

By far the majority of Swedish expeditions to the polar regions have been paid for by private patrons; among men who, by their support, have more than

others rendered service we must name H. M. King *Oscar II* and *Oscar Dickson* (1823—97).

To the **south polar regions,** also, Swedish explorers have penetrated. *O. Nordenskjöld* led an expedition (1901—04) to West Antarctica, south of S. America, where he landed with a scientific party and wintered for two years, while work was prosecuted from the ship by *J. G. Andersson.* By this means and by several long journeys by sleigh, unknown stretches of coast were discovered, and the scientific results were important, beyond others, the geological contributions towards understanding the evolution of the antarctic zone. The vessel was wrecked the next summer, but the members were rescued by an Argentine relief-expedition, while a relief-expedition despatched from Sweden did not arrive until later.

In **Asia,** the work of Swedish exploration has been represented before all others by the magnificent expeditions of *Sven Hedin* (born 1865). After two shorter journeys (1885—86 and 1890—91) he undertook his first great journey through Central Asia. In this he especially investigated lake Lop-nor and the Takla-makan Desert. In 1899—1902, Hedin accomplished his second expedition to the same parts, along the Tarim River to the desert region of Lopnor, and to the neighbouring districts of Thibet, whose mountain ranges he crossed in several directions. He started on a new expedition in 1906, this time to Persia first, and then to the most inaccessible and unknown districts of Thibet, where, among other things, he explored the sources of the Indus and the Bramaputra, and discovered the enormous chain of mountains (north of the course of the latter river) which he named Transhimallaya. Hedin's journeys are especially remarkable for an unusual wealth of detailed observation, recorded in comprehensive works, and by the singular excellence of the map material collected.

In **Africa** Swedish exploration work for geographical purposes has been less extensive, and we only record here that achieved in connection with commercial activity by *Charles Andersson* (1827—67), who travelled through the Damara and Ovambo Territories and by *G. Waldau* (born 1862), and *K. Knutsson* (born 1857) in the Cameroons, while *H. H. von Schwerin* (1853—1912) has worked in the Congo region. Numbers of Swedes have been engaged in the service of the Congo State. Of these many have won a reputation by their published writings, or by the collections they have made. *E. von Rosen* (born 1879) has recently traversed Africa from south to north for the purpose of scientific researches.

From **North and Central America** we must indicate the important archaeological excavations of *G. Nordenskiöld,* in the south western frontier districts of the United States, and the archaeological and ethnographic investigations of *C. V. Hartman* (born 1862).

In **South America** explorations by far more numerous have taken place, for it is thither, next to the polar regions, that Swedish scientists have most often repaired. *Anders Regnell* (1807—84), a Swedish physician, lived in Brazil for 40 years and by personal effort, and later by large bequests to Swedish students, advanced the knowledge of tropical America, especially in respect of botany. During four expeditions 1901—02, 1904—05, 1908—09, and 1913—14 *Erland Nordenskiöld* (born 1877) visited the frontier regions between Argentina, Bolivia, and Peru, and brought home comprehensive collections of remarkable value to ethnography, and he made observations of little known Indian tribes. *O. Nordenskjöld* directed an Expedition to the Magellan Territories in 1895—97 and to the same regions as well as to South Georgia and the Falkland Islands another Expedition went out (1907—09) under *C. Skottsberg* (born 1880), who returned home with scientific results of great interest.

Lastly, we may quote the names of certain Swedish students who, individually or as leaders of expeditions, have of recent years undertaken journeys in remote lands, with some specially scientific purpose and thus have indirectly been of

importance to geography. Among them may be mentioned, in Asia, *Hj. Stolpe* (1841—1905) and *F. Martin* (born 1868), both ethnographers, and *Hj. Sjögren* (born 1856), a geologist; in Africa, *Y. Sjöstedt* (1866), *E. Lönnberg* (1865), *L. Jägerskjöld* (born 1867), *W. Kaudern* (born 1881) and *I. Trägårdh* (born 1878), all zoologists; in Australia and Australasia, *K. V. S. Aurivillius* (1854—99), *E. Nyman* (1866—1900), and *E. Mjöberg* (born 1882); in South America *C. Lindman* (born 1856), *G. Malme* (born 1864), *P. Dusén* (born 1855), *R. Fries* (1876), botanists and *E. Boman* (born 1869) and *O. Liljewalch* (born 1888), ethnographer.

In the **history** of geography and cartography, Sweden may quote the pioneer works of *A. E. Nordenskiöld*, "Facsimile-atlas" (1889) and "Periplus" (1897); in this department the studies of *E. W. Dahlgren* (born 1848) of the French voyages to the South Sea are of great importance.

It remains to say a few words as to how Sweden itself gradually became known geographically.

It was comparatively late that scientific geography first obtained a firm footing in Sweden. Yet all the Universities (Lund 1884, Uppsala and Gothenburg 1901, Stockholm High School of Commerce 1909, Stockholm University 1912) are now places for teaching the subject. Immence importance is also to be attached to the activity shown by the Swedish Society for Anthropology and Geography in Stockholm, and not least to the magazine "Ymer", which came out in 1914 for its thirty-fourth year of publication. Geographical Associations are also to be found in Uppsala and Gothenburg.

A survey of the earlier history of Swedish Cartography down to about 1850 is presented by a work of *S. Lönborg* (born 1871). After various preliminary investigations, *A. Bureus* was able to publish in 1611 the map of Northern Scandinavia that has already been mentioned, and in 1626 it was followed by yet another, including the whole of Scandinavia and the neighbouring countries. By these maps a veritable giants' stride forward was taken in the geographical knowledge of the country. The land survey that was established in 1628 served to collect more and more exact geographical material as to the portions of the country already inhabited: and at the end of the 17th century it may be supposed that the geographical outlines of the country were known by the workers in all their characteristic features. The reader is referred for other works on cartography to the section "Official Cartography".

In the latter portion of the Period of Political Greatness interest began to be very generally aroused in journeys within Sweden itself, undertaken by men of skill and experience, who were able to collect observations on a great variety of subjects. The best known journeys are those of *Urban Hjärne* (1641—1724) and of *Olof Rudbeck*, the Younger. In the Period of Liberty the value of the accurate investigation of the country, carried out by specially equipped and well-qualified travellers, was more and more recognized. *Karl von Linné* (1707—78) was despatched by the Government of the day to different parts of the country, and his descriptions of his numerous journeyings may be said, by their wealth of ethnographical and geographical data, to be the best of the extensive literature on the subject which saw the day, in the 18th century. The materials gained in that manner have formed a basis for descriptive surveys of the whole country; the most valuable of these will be that from the hand of *Daniel Djurberg* (1744—1834), and one by *K. V. A. Tham* (1812—73): "A Description of the Realm of Sweden", published 1849—55, but unfortunately not in a complete form.

During recent years a large amount of material has been collected bearing on the history of the evolution of Sweden, the world of plants and animals, climate, population and means of subsistence, and also respecting the hydrography of surrounding seas. The weightiest of these works are mentioned in the second

chapter of this volume, and here we will only refer to some of the most fundamental in point of the country's geography. An explanation of the Development of the Mountain Chain was first given by *A. E. Törnebohm* (1838—1911). The History of Quaternary Deposits and the formation of the soil has been investigated by G. de Geer, who as early as 1896 included his observations in a work The Geographical Development of Sweden after the Glacial Age, and *H. Munthe* (born 1860). The former has also conducted epoch-making enquiries on the chronology of the post-glacial period. The glaciers have been thoroughly studied by many scientists. *K. Ahlenius* (1866—1906) made the seas of Lappland his subject, while the elucidation of the hydrography of the inland waters advances under the direction of *A. Wallén* (born 1877). The evolution of organic life has been set in a new light by the study of peat-beds and other formations; the results of such work are put together in The History of Swedish Vegetation by *Gunnar Andersson* (born 1865). The whole science of modern hydrography has been almost revolutionalised by investigations made by *Otto Pettersson* (born 1848). For valuable, detailed geographical studies we have to thank, among others, *J. Frödin* (born 1879), *O. Sjögren* (born 1881), *H. Nelson* (born (1882), and *S. De Geer* (born 1886). Moreover, a mass of material has been gathered together in the spheres of ethnography and language, although elaboration has only proceeded so far that geographical results are forthcoming.

As the final result of all this work several monographs have been published descriptive of larger or smaller regions in Sweden. *A. G. Högbom* (born 1857) has edited a recently valuable survey of the geography of Norrland. A detailed study of the Sarek-region, the highest mountain tract of Sweden, has been in hand for several years under the direction of *A. Hamberg;* the results of this work is under publication at the cost of the State. Moreover, it may readily be asserted that the investigation of Norrland, and more particularly Lappland, presents at the moment the greatest interest. Among other provinces of Sweden the nature and people of Uppland have been minutely described some years since.

There remains much to be done: even topographical maps are not yet entirely complete, but investigation goes forward rapidly, and in a few years it will have progressed still farther than is the case at present.

O. Nordenskjöld's winter hut, 1902—03, on Snow-Hill Island.

V.

SOCIAL MOVEMENTS.

In practically all civilized countries, the present time is characterized by penetrating movements for the reformation (or revolution) of the community — differing from earlier times, insofar that they have reached down to the masses of the nations. In Sweden, where education is advanced and political freedom has existed for centuries, these movements have obtained much strength: yet even in this respect, too, as is so often the case elsewhere, peculiarities emerge testifying that Sweden's development continues very largely to go its own way.

Of these movements, the greatest attention among Swedes has been drawn to the labour movement, religion, the woman question, and temperance.

The *labour movement* will be fully dealt with later, in the section "Labour questions and social politics".

Concerning the *religious* movement, some data have already been given in the section "Church and Religion", and below in the article on Y. M. C. A. and Y. W. C. A. It should here be remembered that this powerful popular movement has extended its influence to many departments of social life. For the first time, at any rate since Engelbrekt's days, a strong movement has arisen in Sweden from the very dephts of the community. It is peculiar to the country that this has taken place in the sphere of religion, and neither in the political nor the social arena: but when once aroused, the new life will surely assume other forms than the religious — as has already been the case, in fact.

The educating power of such a movement is manifest. Even from the economic point of view the awakening has been of much importance by promoting diligence, thrift, and economy.

Somewhat fuller accounts shall here be rendered of the *woman question* and *temperance* severally.

It seems suitable, moreover, to assemble in this section a number of accounts of social work of very different sorts. Sweden is rich in *friendly societies* and other excellent *associations* for prosecuting a number of desirable objects in social life, which are often important in themselves, although generally they do not compare with those mentioned above. This work deals with a multitude of such associations, under the sections which concern their respective spheres of activity, and so our only object here must be to mention or refer to them summarily.

I. LABOUR QUESTIONS AND SOCIAL POLITICS.

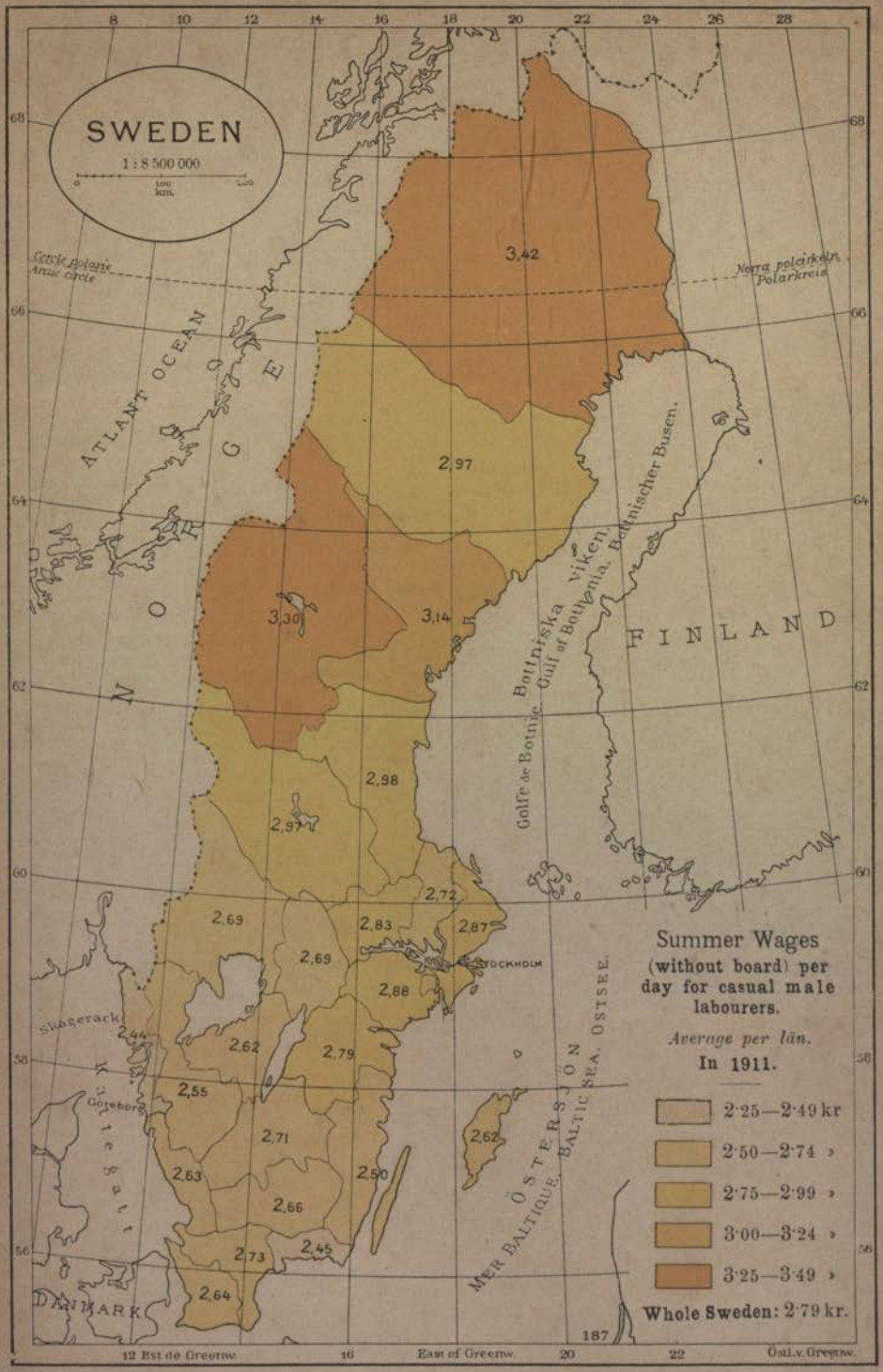
As already intimated in the preface to "Social Movements", social problems and especially that of labour, occupy in Sweden the most prominent place among the currents of social life. We shall set forth below a more detailed account of the most important social problems and conditions bearing a relation to those problems considered both from the historical point of view and with regard to the legislation that has been brought forth as a result of the social-political measures.

Labour Conditions and Workmen's Wages.

In the following pages it is proposed to give a general sketch of labour conditions and workmen's wages.

Agricultural Labourers. That portion of the population of Sweden which derived its income directly or indirectly from agriculture is estimated to have fallen between 1870 and 1910 from 72 % to 48 % of the total population. The result of this "flight from the country" is that the body of labour available for agriculture has been steadily diminishing, whereas the area of tilled land and the size of the cattle stocks has either been increasing or, at any rate, has not been decreasing to any appreciable extent. It is true that in recent years attempts have been made, by the increased use of labour-saving machinery and transport facilities, and in general by running the farms in a more economical manner, to reduce the need of human labour. Nevertheless, particularly in certain parts of the country, there is a real and positive lack of agricultural labourers. An investigation which was set on foot by the Board of Trade yielded the following results: 5 % of the rural communes had an ample supply of agricultural labourers, 62 % an adequate supply, and 33 % an inadequate supply (in 1911).

The working population engaged in agriculture amounts at present to 1·2 millions, which approximately corresponds to 1 labourer per 3 hectares of tilled land. This comparatively high figure receives its explanation from the following considerations: agricultural labourers, especially in winter-time, are also employed in other occupations (forestry, fishing, industry); the cultivated land in Sweden is occupied to the extent of about 75 % by small holdings *(smådbruk)* and peasant farms (*bondgård*), the running of which demands a far higher number of day's works per unit of area than that of large farms (*storbruk*).



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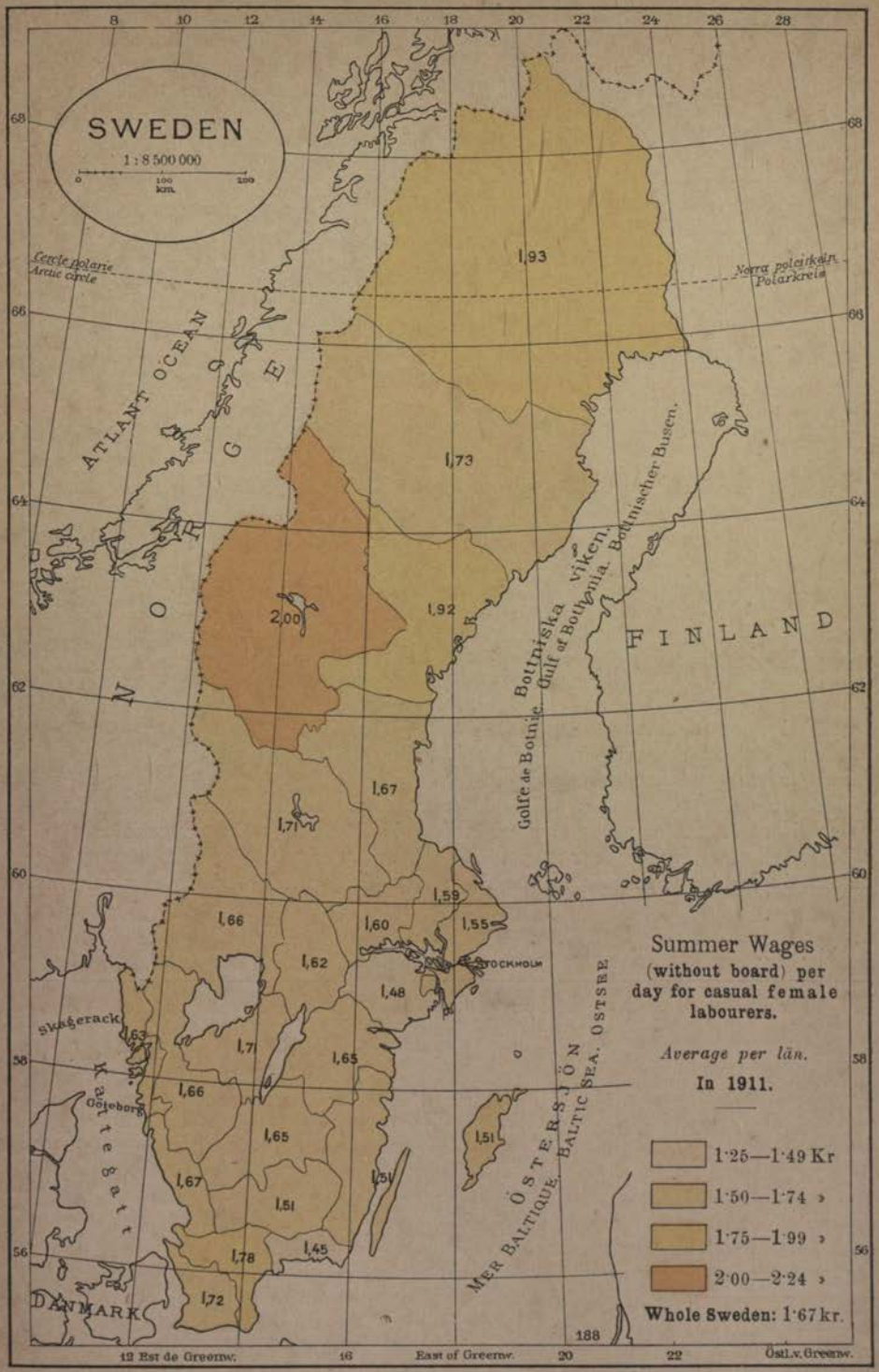
The fact that small holdings play such a dominant rôle in Swedish agriculture also explains why there is such a vague line of demarcation between the social conceptions of employer and employed. Out of the 1·2 million persons at which the agricultural labour population has been estimated above, close on 800 000 consist of men. Among these labourers — for labourers they must be acounted to be from the point of view of their economic position — are comprised about 320 000 independent holders, namely the owners and occupiers of peasant farms, crofts (*torp*), and small holdings, who either take part in the work themselves as labourers, or (as "self-supporters") carry on their occupation without other assistance in the work than that of their families. The latter consist of sons, sons-in-law, and so on, about 220 000 in number, who as a rule assist in the farm-work without receiving any actual wages. The remaining aproximately 260 000 persons should thus respresent the actual male agricultural class, which derives its main income from paid labour in the service of others.

Crofter's Cottage.

As to the conditions in which this large working population lives and works, information is supplied by a series of investigations published by the Statistical Branch of the Board of Trade (at present called the Royal Social Board). These data show that the *hours of labour* of agricultural labourers, exclusive of intervals, are about $10^1/_2$ hours per day during the summer, whereas they are considerably shortened during the darker part of the year. However, the hours of labour are everywhere still longer for persons who have the charge of the cattle; moreover, for the agricultural labourers proper they are by no means uniform in different parts of the country. Thus the hours are comparatively short in the East and South of Sweden, but comparatively long in the West and North parts of the country.



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Particularly in the latter districts, and in general in smaller properties, there seem, however, to be no fixed hours for agricultural work; the length of the hours of labour being adjusted in each separate case to the nature and demands of the work. In these parts of the country *overtime* work is unknown as something for which special remuneration is demanded, whereas in other parts payment is usually made for overtime work, when during the spring farming or the harvest time the ordinary working hours are appreciably exceeded.

In the annual reports of the provincial Agricultural Societies since 1865 data have been given as to the *prices of labour* in agriculture, and on the basis of these data one can follow in the main outlines the fluctuations of wages since the said period (cf. Table 73).

Fuller information with respect to the different classes of agricultural labourers their wages and income is supplied in the investigations of the Board of Trade (and the Social Board) referred to above. The most important workers in small farming, that is the unmarried farm servants, are paid an annual wage in cash besides board and lodging. The wages vary greatly in amount in different districts. On an average for the whole of Sweden the annual wage in 1913 for a man-servant (*dräng*) was 326 kronor, the estimated annual cost of food 357 kronor (0·98 kronor per day) and the annual earnings thus 683 kronor, whereas for a female servant (*piga*) the corresponding average figures are 197 kronor, 288 kronor (0·79 kronor per day) and 485 kronor.

As for the servants called statare, usually married men, found on the larger estates in the agricultural districts proper, who, in addition to an annual wage in cash receive what in Swedish is called *stat,* that is, allowances in kind, consisting of milk, corn, potatoes, and so on, and who rent-free hold a dwelling intended to house a family, their yearly income is on an average 720 kronor. This, however, is only the case with the ordinary farm labourers (*körkarlar*), whereas the herdsmen and skilled labourers generally have an wage from 100 to 200 kronor higher.

Alongside of the above-named categories of agricultural labourers, who are as a rule hired (*lagstadda*) servants, there exist in Swedish agriculture a number of groups of labourers with conditions of employment regulated according to quite different principles. A main group among these is formed by the day-labourers (*daglönare*) whose wages are not paid at all, or at any rate only to a very slight extent, in kind, but mainly in the form of a daily wage which varies very much

TABLE 73. *Farm Labourers Wages.* In kronor.

Annually	Annual wage, (besides room and board) for		Value of entire pay (wages and provisions) for "statare"		Summer wages per day for		Winter wages per day for		For 300 work-days [1]	
	Man servant	Woman servant	Man	Woman	Man	Woman	Man	Woman	Man	Woman
1866—70	103	46	280	175	1·15	0·62	0·75	0·42	285	156
1871—75	154	61	375	214	1·82	0·86	1·20	0·65	453	219
1876—80	153	64	378	221	1·62	0·83	1·10	0·58	408	212
1881—85	153	66	366	213	1·55	0·83	1·04	0·57	389	210
1886—90	149	69	366	209	1·58	0·91	1·04	0·61	393	228
1891—95	173	84	404	225	1·78	1·02	1·21	0·71	449	260
1896—00	205	103	456	253	2·05	1·15	1·42	0·81	521	294
1901—05	233	123	507	286	2·21	1·30	1·54	0·93	563	335
1906—10	280	161	609	347	2·60	1·52	1·86	1·11	669	395

[1] On the basis of day-wages in summer and winter, reckoning 150 days to each season.

in different parts of the country. With regard to the fixed (*fast*) day-labourers, who have as a rule engaged to work under a certain employer for a year or at least for the six summer months, the summer day-wage in 1913 was on an average 2·54 kronor for men and 1·61 kronor for women, whereas for the small holders (*småbrukare*), cottage men (*husmän*) or casual labourers (*lösarbetare*), who render occasional assistance now to one now to another farmer, the corresponding daily wages amounted to 2·97 kronor and 1·77 kronor respectively (cf. the accompanying map, which shows for 1911 how wages vary in different parts of Sweden). During the winter months the daily wage was considerably reduced, and the difference between the summer and the winter wage may amount to 30 % and over in districts in which during the dead season for agriculture there is but little prospect for earning a wage in other occupations.

Alongside of the settled day-labourers there occur migratory labourers (*vandringsarbetare*) from the forest tracts of Sweden and (especially since 1904) from Poland and Galicia, who in the busy season of the agricultural year migrate to the agricultural districts of Southern Sweden, where the very laborious cultivation of root-crops in particular is very widely diffused. These season labourers are not only paid by the day or by the hour, but also by the piece (*på ackord*).

There are other groups of labourers who in certain cases are paid for milking, hay-making, bringing in the corn, and the like *by the piece*, without regard to the time they take over their work.

From ancient times in Sweden greater agriculture has contrived to secure a reliable supply of labour by the crofter system (*torparsystemet*) which practically means the conveyance of the right to cultivate ground on estates (*hemman*), as well as other advantages, to persons who engage by contract to execute a certain amount of agricultural labour on the main estate. The crofter's double capacity of agricultural labourer and small holder has however proved more and more difficult to maintain with regard to the larger crofts; hence there has been an ever increasing tendency for the crofts to be converted into tenant farms (*arrendegård*), for which the rent (*avgäld*) is paid not in labour but in money.

However, if the crofts do not grow to such a size that the holder can look after them in his spare time with the assistence of his family, and if the crofter system is brought into line with modern requirements in other respects as well, the crofting system should have prospects of surviving as a system of labour for agriculture on a larger scale. One proof of this is that in recent years endeavours have been made to apply the leading principle of the crofter system also to certain other groups of agricultural labourers. The creation of such "*lantarbetarsmåbruk*" or agricultural labourers' small holdings, has been regarded in Sweden, as in other countries, as a good method for improving the position of the agricultural labourer, both socially and economically. At the same time the presence of a link of this kind should considerably facilitate a step of great importance for the solution of the agricultural labour problem, namely to render it as easy as possible for an agricultural labourer to rise in the social scale from a mere workman without a particle of ground of his own to the position of small holder and small peasant-farmer (*småbonde*).

Forest Labourers. The 21 million hectares of productive forest soil, of which about 1/5 are State, etc. property, are at present cultivated chiefly by casual labourers, recruited from different ranks of society. Thus among the seasonal labourers who in the timber-cutting districts of Norrland and in other parts of Sweden in winter time cut and dress timber, and convey it to the waterways down which it is floated, and who in the milder season of the year float it down to the saw-mills, we shall find an entire social scale of population with the well-to-do farm-owner (*hemmansägare*) at the top and the ordinary tramp at

the bottom. The State Authorities are now investigating the conditions of life and of labour of this working class, which is compelled to spend a great part of the year in put-up timber shanties and to subsist on what is frequently wretchedly cooked and extraordinarily monotonous fare. The more and more imperative need of a well-qualified and settled body of forest labourers has in recent times occasioned certain measures on the part both of the State and of private forest-owners with the object of procuring a supply of steady labour by supplying the workmen with small holdings (*egna hem*), and by providing them with constant occupation.

Workers engaged in Industry, Trade, and Transport. From 1870 to 1910 that portion of the population which subsisted on industry, trade and transport has increased from 20 % to about 45 %. That this desertion of the country and abandonment of an agricultural mode of existence for the life of the cities has often been greater than the needs of industry have actually called for is proved *inter alia* by the reports of the public labour exchanges (*arbetsförmedling*) which show with the most perfect clearness the radical difference between the labour market in agriculture, on the one hand, where there is practically always a steady and abundant *demand* for labour, and the industrial occupations, and the like, on the other, where the *supply* of labour is as a rule greatly in the excess.

Whereas in agriculture there still survive considerable remnants of the ancient patriarchal relations between master and servant, in industry the contrast between employer and employed is coming more and more sharply into evidence. Whereas the apprentice formerly lived in his master's house and accompanied him in his work, nowadays their relations to one another may be typically expressed by the principle which an actual collective agreement in the furniture-making branch formulates in the words: "Employers and workmen are not bound by one another longer than the period for which the agreement with regard to each particular piece of work is in force." According as handicraft and small establishments are being ousted in one domain after the other by industry and big establishments, these class distinctions are rendered more and more acute; for, whereas in the crafts employers and independent workers without labourers are stated actually to exceed the employees in numbers (in 1910 63 000 and 54 000 respectively), in the entire manufacturing industry there are on an average 26 workmen to a factory, and in the large industry about one hundred workmen to every establishment. If moreover we take into consideration that about 75 % of the entire working personnel occupied in larger industry are engaged in the service of joint-stock companies, it will be readily realized how impersonal the relation between industrial employers and their workmen is bound to be.

The number of workers engaged in industry, trade, and transport is at the present moment rather above than below 500 000. Out of this half million about 335 000 (inclusive of 46 000 grown-up women and 44 000 persons under 18 years of age) fell in 1911 to manufacturing industry and mining; these 335 000 again are estimated to have been distributed as follows: 4 % in the stone industry, 5 % in the mining industry, 12 % in the iron industry, 11 % in the mechanical works, 15 % in the timber industry, 4 % in the wood pulp industry, 12 % in the textile industry, and 37 % in other industries.

Whereas the rate of wages in the agricultural market is determined in the main by the local supply and demand of labour, in the case of industry wages and conditions of employment are also greatly affected by the line of policy adopted by the employers' associations and trades-unions. (Cf. below). The results of these negotiations and contests of these parties have in extensive measure settled by "collective bargaining" (*kollektivavtal*), and these trade (collective) agreements at present govern wages and conditions of employment in a great

number of branches of industry or occupations which have largely assumed the character of industry. (Cf. below). A study of these agreements, which are often remarkable for great precision and wealth of detail, will serve in a great measure to cast light and to throw into relief the salient points in the working conditions of the various occupations. But, if one would convince oneself that the discription actually represents the industrial working conditions as they are, and not merely as they are intended to be, the information furnished by trade (collective) agreements as to the maximum hours of labour and the minimum wages for workmen with a normal working capacity are supplemented and checked by data obtained direct from employers and employed as to the actual working hours and the wages actually paid during a certain known period of time.

As to *hours of labour*, data of the latter kind are obtainable from a report published by the Board of Trade on the length of working hours in industry and handicraft in 1905, affecting about 345 000 workmen. It will be seen from this report that the average net working day for workmen in different classes of occupation ranged between 8·5 and 10·6 hours, and on an average for all groups was 10 hours.

However, the ordinary working hours can be both shortened and lengthened. Thus many branches of industry have seasons, which means that work of great amount can only be procured during certain periods of the year. (See *infra*).

When there is a pressure of work in a certain branch, the work may be extended to the evenings or to Sundays and bank holidays, in which case however, extra pay is given for overtime work. Another system is to arrange the workmen in relays or shifts. But there are also industries in which, in the regular course, the work is carried on by relays of workmen succeeding one another, these relays consisting either solely of certain groups of workmen, as for example burners in tile-works, engine-men and stokers, etc., or else of the bulk of the factory personnel, as in the case of the sugar, the mining, the iron, the sawmill, the wood pulp, and the paper industries. The shifts are usually arranged as 12-hour shifts with two relays succeeding one another, or else as 8-hour shifts, in which case the working hours on an average per workman and day will be 12 hours, if two shifts are employed, but only 8 hours, when three relays are employed. Particularly in the mining and iron industry however, there occur alongside of these main kinds of shift, also other forms of shift organized in accordance with quite different principles.

As to the *wages* in the industrial occupations, the sources of information flow rather sparingly, to some extent even more sparingly than in the case of agriculture. Whereas in the case of the agricultural labourers, as has already been stated, the development of wages can be followed for nearly half a century back, as regards industrial workmen there exists merely a very scanty material of this nature. The stray items with respect to the wages and working conditions of this class of workmen obtainable from available courses must moreover be treated with great caution, in consideration of the rapid progress which industry is undergoing with respect to economy and organization.

However, an extremely characteristic feature for the development of wages in the industrial occupations should be pointed out, namely the increasing substitution of wages in cash for wages in kind. Whereas in a number of crafts, as for instance the bakery, the shoemaking, and the tailoring trades, it was formerly the rule that the apprentice was to receive free board and lodging, the struggles the workmen have been waging against this form of remuneration have now been crowned with complete success; the lodging system has been abolished in principle, and occurs only in places where the workmen encounter obvious difficulties in procuring board and lodging for a tolerably reasonable price. In former days the miners in the Bergslagen district, by way

of remuneration for their work performed in the traditional way and in the traditional time, received a wage partly in money and partly in kind, frequently by the grant of what was called *"barnsäd"* (that is, so and so much corn adjusted to a certain extent according to the size and needs of each family). Nowadays conditions of employment in the majority of the Swedish iron works are regulated by a national trade collective agreement concluded in 1908 between the Järnbruksförbundet, the Iron Works Federation and the corresponding trades-unions. This agreement rests on the basis of wages paid solely in cash, fixed under the explicit assumption that the workmen should surrender all claim to such advantages as free lodging, free fuel, contributions in aid of rent, potato beds, and the like. In case a workman should nevertheless desire to have a free dwelling, free ground, or the like assigned to him by the company, he will be obliged to submit to the estimated value of the said advantages being deducted from his wages.

In default of complete wage statistics, it seems nevertheless possible to obtain a rough idea of the standard of wages in different occupations on the base of the data as to the average value of the days of work lost owing to the General Strike of 1909. These figures will be found in the report on that conflict issued by the Board of Trade. For the total number of 285 000 workmen engaged in industry, trade, and transport covered by the Report, the average income per day is 3·52 kronor, though the figures vary greatly in the different occupations. The lowest wages are met with in the industries which employ female labour to a large extent, as for example the textile industry (2·32 kronor), the tobacco industry (2·65 kronor), the book-binding industry (2·62 kronor), and others. High wages are encountered above all in the more distinctly season trades, in which work of great amount can only be obtained during a particular part of the year, as for instance in the painters' trade (5·04 kronor), the building trade (4·69 kronor), the stevedores' trade (4·01 kronor). In industry in the strict sense, a high average of daily wages is found in those branches which make high demands on the individual training of the workmen, for instance the hatters' trade (4·49 kronor), newspaper printing (4·45 kronor), and so forth.

An important consideration in determining the level of the wage is whether the occupation in question is one in which the wage is meted out according to the time taken without regard to the work accomplished, or one in which the wage is calculated according to the work accomplished without reference to the time taken. Finally the amount of the wage is determined to a great extent by the local cost of living. In those national trade (collective) agreements which regulate the conditions of employment for the whole of Sweden in certain lines of occupation, due consideration has been paid to this matter: different scales of wages have been drawn up not only for different classes of workmen, but also for different places, an endeavour being made to adjust the wages to the local costs of living.

If one takes the 285 000 workmen and distributes them according to town and country, it will be found that the average income per day is 3·56 kronor for the 157 000 workmen out of that number who belong to towns, and 3·48 for the 128 000 workmen in the country. That the difference is not greater is due to the fact that the data emanating from the country almost solely have regard to big industrial establishments, where the wages and costs of living for obvious reasons keep poised at the same level as at equivalent establishments in the towns.

When we compare this average wage for the industrial workmen of the rural districts with the simultaneously prevailing daily wages for agricultural labourers, which can be estimated at 2·28 kronor, one must take into consideration the fact that the agricultural labourer has the possibility of himself producing, or of

procuring cheaply, such articles as milk, corn, potatoes, and the like, necessaries of life which the industrial workman is obliged to buy retail at a high rate, as well as the fact that the industrial workman has to devote a very appreciable portion of his income to the rent of a dwelling which the agricultural labourer has assigned to him by his employer rent-free.

Sailors. With regard to the working conditions and wages of sailors see the detailed account in the section on Shipping and Navigation (Part II).

Workmen in the Public Service. It is an extremely characteristic feature of the economic life of the past few decades that the State and the cities have been tending in increasing measure to enter the field of commercial and industrial enterprise with the object of itself satisfying a growing share of the economical and hygienic needs of the population. A natural consequence of this development has been that the State and the Commune at present are appearing on the scene as employers on a large scale both directly, and indirectly with contractors as middlemen. It is outside the purpose of this article to enter in detail into the conditions of the workmen only indirectly employed in the public service, especially as in Sweden — in contradistinction from what is the case in certain foreign countries — it appears to be quite the exception that the State or the Communal Authorities take into consideration the social aspect of the contracting system, and by means of clauses in the contracts or in other ways endeavour to preclude that such contracts, whose natural effect is to offer a premium to the lowest bidder, shall exercise an injurious influence on the wage conditions of the workmen employed in the work in question. It is proposed here only to deal with the working conditions for the workmen directly engaged by the State and the Communes.

Although these workmen belong to widely diverging occupations and trades, nevertheless their conditions of employment present great points of resemblance, which are due to the character of their employer (the State, etc.), and the conditions under which they are engaged. It should particularly be noticed that in the public service the economic conflict of interests which marks the relation between the private employer of labour and his workmen comes into play only in a very minor degree; for in a public institution the wages of the personnel can be nicely adjusted, without its being necessary to pay the same attention to the economic staying power of the enterprise and to the yield of a profit, as in the case of private enterprises. The corollary of this is that strikes and lock-outs ought not to occur in public institutions and in public works, especially as they are, as a rule, of such a nature that a strike in them would entail consequences fraught with danger to the community.

As regards the different categories of workmen in the public service, a distinction should at the outset be made between State and communal workmen.

As to the workmen engaged in the service of the *State,* a smaller number of them are employed in dockyards, workshops and factories, as a rule ranging under the military authorities, whereas the bulk of them work for the account of the big communication services. Thus the State Railways Board, the Telegraph Board, and the Board of Waterfalls together employ about 36 000 persons, most of whom are to be regarded as manual labourers. These State workmen, however, do not form a homogeneous body, but are divided up into a great number of groups, limited by distinctions in the method of engagement, and by work and wage conditions determined by the varying nature and responsibility of the work. At the top of the scale stand the regular line staff of the State railways, the telegraph line repairers belonging to the Telegraph Service, and the like. This class of workmen are in most cases on a par with subordinate officials: they have a permanent position, they are entitled to a pension, and they are in receipt of wages in accordance with a scale determined

by the Government. The lowest layer of State workmen consist of the workmen who are engaged temporarily by the State authorities for work on the railway line and railway construction, for the erection of telegraph and telephone lines and for the building or rebuilding of power works, canals, or the like. Most of these workmen have work only during certain parts of the year (as a rule in the summer season), and their hours of labour and wages are in most cases determined, within the scope of the conditions and prices which obtain in the ordinary labour market, by the administrative authorities who employ them. In view of the fact that the conditions of employment and wages of their fellow-workmen engaged in the service of private railways (personnel about 20 000), private telephone companies, and private power works are to a great extent regulated by collective agreements, demands have been put forward especially by the temporary class of State workmen for an organized collaboration on the part of the workmen in settling the conditions of employment. These demands have begun to win more and more attention.

The workman directly engaged in the service of the *Communes* numbered in 1911, according to an investigation made by the *Svenska stadsförbundet*, the Swedish Townships Association, about 12 000, close on two-thirds of which fell alone to the cities of Stockholm, Gothenburg, Malmö, and Norrköping. Among these communal workmen several main groups may be distinguished, according to the institutions and works in which they are employed.

During the summer about 5 300 workmen are employed in the building and maintenance of the roads, bridges, harbours, houses, and so on, of the urban communities, whereas during the dark and cold season of the year, when work of this nature is only carried on with considerable difficulty, close on a third of these workmen are congéed. This kind of season work is also done by the garden, forest, and agricultural labourers, and others employed by the corporations, who numbered not fully 800 in January of the year 1911, whereas on the first of July they had increased to 1 200. On the other hand, in contradistinction from what is the case with these groups of workmen, constant occupation the whole year round is apparently as a rule provided for the scavengers of the city corporations, who number about 1 500 hands, as well as for the 4 500 workmen or so who are employed in the waterworks, gas and electricity works, and trams belonging to the corporations.

But even these last-named group of more permanently engaged communal workmen only in exceptional cases rank on a par with the subordinate State officials referred to above, inasmuch as they usually have a less secure engagement than the latter, and are not entitled to a pension (except at Gothenburg and Malmö). However in recent years there has been a tendency to convert the qualified working staff of the public utility services into a kind of communal officials of lower grade, permanently engaged, with an annual salary and a rise to a higher scale on attaining a certain age, and entitled to holidays, sick-relief, and a pension.

Organization of Workmen and Employers.

Trade unions. It was only a quarter of a century after the introduction of the so-called "liberty of trade" (as opposed to the restrictions of the Guilds) and the ingress of the industrial revolution into Sweden that modern trade unionism obtained a footing among the wage workers of the country. In the eighteen-eighties trade unions also began to be formed in most trades in all places of importance. The initiative proceeded in most

cases from social-democratic organizations: thus was laid the foundation of the close connection and collaboration that still subsists between the trade unions and the political Labour movement in Sweden. The years of depression in the eighties, and the pressing-down of wages which thereby ensued, likewise conduced to make the workmen realize the advantages of trade organization, and thereto accrued the experience gained from the earlier and more advanced trade unionism of Denmark and Germany.

Modelled on those prototypes, Swedish trade unionism conforms to the Anglo-Germanic type of the Labour movement. Thus the workers engaged in a certain trade combine in a local *trade union;* the latter, in turn, may consist of several *sections* or *"workshop clubs" (verkstadsklubbar),* according to the nature of the particular trade and the size and character of the establishment in which the workers are employed. The trade unions in turn are, as *branches (avdelningar),* combined in *federations (fackförbund).* Most of the federations have formed a common central organization, the *"Landsorganisation" (General Federation of Swedish Trade Unions),* which principally acts as a kind of reinsurance establishment in lock-outs and defensive strikes embracing more than 3 % of the members of the federation in question. The connection between trade unionism and the social democracy consists in the fact that the local branch of the political party, namely the *arbetarkommunen (workmen's commune),* consists of the trade unions in the locality. Any trade union can by a bare majority resolve whether it shall join the "workmen's commune"; the minority has the right to enter a reservation, and thereby obtain exemption from the payment of contributions to the party. The federations and the "Landsorganisationen" have now no connection whatever, as regards organization, with the Social Democratic Party, except the personal union that arises from the fact that numerous officials of the trade unions hold responsible positions in the Party, and social-democratic seats in the Riksdag and the municipal councils.

The first federation, that of the Typographers, was formed as early as 1886. It was succeeded by several others in rapid succession, especially during the spell of prosperity and the great advance of Swedish industry in the late nineties. When the "Landsorganisation" started into action in 1899, it embraced 19 trade federations, with 692 branches comprising altogether 37 523 members. A number of other federations with 26 678 members did not join the "Landsorganisation". The entire numerical development of the Swedish trade union movement is shown by the subjoined summary:

Year $^{31}/_{12}$	Number of members	Year $^{31}/_{12}$	Number of members
1890	8 392	1908	212 901
1895	15 191	1909	147 891
1900	65 829	1910	117 981
1905	104 080	1911	113 898
1906	179 644	1912	121 509
1907	230 667	1913	135 977

After a rapid increase of the number of members during the prosperous times from 1905 to 1907 — during which latter year close on half of the total number of wage earners in industry, trade, and transport in Sweden appear to have been organized — the number dropped by about 50 % during the ensuing years of depression, mainly on account of the big ruinous conflicts with the organized employers during the years from 1908 to 1909. The masses of newly acquired, untrained members fell away, but a picked nucleus of experienced men remained. In recent times the number of members has once more begun to increase. At the end of 1913 Swedish trade unions consisted of 38 federations with 1 976 branches, comprising a total of 135 977 members, of which 6 858 were women. Of this total there belonged to the "Landsorganisation" 26 federations with 1 433 branches comprising 97 252 members, that is 71·5 % of the total organized workers. The trade unions of Sweden are not exclusively limited to skilled workers, but also consist of unskilled and casual labourers in various trades. The principal federations outside the "Landsorganisationen" are those of the Railway Servants and of the Typographers.

People's Palace, Stockholm.

The constitution of the Swedish trade unionism is extremely democratic, but is based to a very great extent on the representative system. The governing body of the federation, is the *Congress* (*kongressen*), which, consisting of elected representatives from the branches, and as a rule assembling every three years, determines the statutes and policy of the federation, and nominates the *Federation Committee* (*förbundsstyrelse*) and the officials (usually, a secretary, and a cashier; in large federations several in addition) that are entrusted with the management of the affairs of the federation. The branches are otherwise self-governing, and elect their committees at a general meeting. A wage movement or a strike, however, may not, as a general rule, be set on foot without consulting the federation committee and obtaining its sanction, besides obtaining the vote of a qualified majority of the members of the branch, ascertained by secret voting. The committee of the "Landsorganisation", the *Landssekretariatet*, nominated by the Congress of the "Landsorganisation", consists of seven members, out of which three are salaried functionaries; alongside of it is the *Representantskapet*, composed of representatives from the committees of the federations that have joined the organization. Since 1900 the Chairman of the "Landsorganisation" has been *Herman Lindqvist*.

The regular incomes of the trade unions consists of contributions and entrance fees paid by the members. The amount of the annual contributions for working

and fully paying members ranges from 33 to 3 krónor. The higher annual contributions are, as a rule, due, to the fact that certain federations, especially those of skilled workers, pay benefits for unemployed, travelling and sick members, and therefore make greater demands on their members. As to the entrance fees, they vary from 50 öre to 10 kronor per member. The federations which have joined the "Landsorganisation" are obliged to demand an annual contribution per member of at least 15·60 kronor. If the regular income does not suffice, an additional contribution is levied on the members. During the recent fifteen years, the Swedish trade unions have levied on their members 20 kronor on an average, in ordinary and extra annual contributions.

In 1912 all the federations had a total income of 2 157 937 kronor, and a total expenditure of 1 733 032 kronor, distributed in the folloving manner: Administration 323 854, contributions to the "Landsorganisation" and other Swedish and foreign trade unions 370 321, labour disputes 522 656, unemployed benefits and payments to members, travelling in search of employment 235 560, agitation 50 358, trade papers 92 613, and miscellaneons 137 670, all in kronor. The funds in hand were at the end of the same year 1 545 888 kronor. The revenue of the "Landsorganisation" — a regular annual contribution of 19·20 kronor for every fully paying and working member of a joint federation — and its expenditure — for administration, agitation, and labour disputes — was in 1912 373 897 and 297 670 kronor respectively; the funds in hand were 522 712 kronor. The "Landsorganisation" likewise subsidises from a special fund the erection of People's Palaces for the organized workers in the provinces. Up till 1914 loans had been granted by this fund to 88 of these enterprises, to the amount of 216 920 kronor.

Apart from these principal trade unions there are two separatist organizations. One of them, the *"Svenska Arbetarförbundet" (the Swedish Workmen's Federation)*, formed in 1899, maintains the independence of trade unionism from party politics, while the other and younger body, *Sveriges Arbetares Centralorganisation*, cherishes anti-parliamentary, revolutionary, and syndicalist ideas. However, owing to the paucity of their members, neither of these organizations have been able to exercise any great influence.

Employers' Associations. During the General Strike of 1902 trade unionism, centred in the recently formed *"Landsorganisationen"*, the General Federation of Swedish Trade Unions, exhibited its might and the wide range of its influence. It was then that the lurking misgivings as to the feeble "fighting" efficiency of the employers' associations as hitherto organized, misgivings already engendered by the experience gained in the labour disputes of the previous decades, matured in to the full force of conviction. Out of the earlier unions of masters, which were something in the nature of social clubs or debating societies, devoting themselves in a general way to the promotion of trade interests, there now rapidly developed organizations with well-defined purposes, and among them e m p l o y e r s' o r g a n i z a t i o n s in the real sense of the term, formed with the set aim of counteracting the workmen's unions, and working for the regulation of labour conditions in the interests of the employers. These new organizations were not, like the earlier ones, based solely on fellow-

ship and parity of professional interests: those more ideal motives were eked out by others of a most substantial nature. As a rule, members on entering the association are obliged to give bond in a very considerable sum, a sum which the association is entitled to call in, wholly or in part, in the event of the issuer of the bond failing to comply with its decisions, or otherwise exhibiting lack of corporate feeling.

The biggest and most important of the employers' association that date their origin from 1902, that "year of organization", is the *Svenska arbetsgivareföreningen*, the General Federation of Swedish Employers; the Federation was from the very outset intended to be, as it has remained, a confederation of large employers of labour, with its most important branches represented by separate trade federations, such as the Järnbruksförbundet, the Iron Works Federation, the Textilindustriförbundet, the Textile Industries Federation, the Sågverksförbundet, the Saw Mills Federation, the Pappersmasseförbundet, the Paper Pulp Federation, and so forth. The General Federation has passed through a very vigorous development: whereas at the close of 1903 it comprised only 101 employers with 28 924 workmen, the corresponding figures for 1913 were 1 209 and 160 241 respectively.

On its first appearance in the field, the Federation was a purely defensive organization, with insurance against strikes as its leading principle. Gradually, as the new organization grew in members and capital, it entered upon a new phase: it came to devote itself more and more systematically to the positive work of guarding the interests of the employers in collective agreements. This change of tactics is marked by the insertion into the regulations 1905 of the celebrated "§ 23", whereby the General Federation secured effective control of the entire policy of its members with regard to agreements, while at the same time that policy was predetermined as regards the right of employers to have the management of the work entirely in their hands, and to decide on the composition of the working staff. Now that the General Federation has almost completely succeeded in carrying through its principles within the spheres of action under its control, its interests appear in recent years to have been directed particularly to wage questions. Thus in 1912 the General Federation had founded a bureau of statistics, the object of which is to obtain a broad and comprehensive view of prices in the labour market. Since 1907 *Hj. von Sydow* has been Chairman and Director of the Federation.

Although the General Federation of Swedish Employers embraces large industry almost in its whole range, there is nevertheless one field of labour that is almost entirely excluded from its purview. The mechanical works and affiliated branches are represented by the *Sveriges verkstadsförening*, the Swedish Mechanical Works Association, likewise founded in 1902, and which in 1913 boasted of 189 members with 29 492 workmen. This Association has by its vigorous policy and the singleness of its aims done much to impart to the labour conditions coming within its range greater steadiness and order. The thorough knowledge it possesses of those conditions is partly due to the statistics of employees and wages which the Association was the first among Swedish employers' organizations to draw up.

The building trade and the branches connected with it constitute the special sphere of the *Centrala arbetsgivareförbundet*, the Central Employer's Federation, founded in 1903. That Federation at present comprises about 2 000 employers, with 30 000 to 40 000 workmen.

There are in Sweden several other federations of employers, as, for instance, *Svenska järnvägarnas arbetsgivareförening*, *Svenska lantarbetsgivareföreningarnas*

fullmäktige, Svenska boktryckareföreningen, Sveriges bageriidkareförening, Svenska skräddareidkareföreningarnas centralorganisation, and *Sveriges redareförening,* representing the railways, agricultural labour, the printers, the bakers, the tailors, and the shipowners respectively.

In recent years there has been a decided trend towards centralisation in employers' organizations. The chief result obtained in this line was the establishment in 1910 of *De Svenska Arbetsgivareföreningarnas Förtroenderåd,* the Council of the Swedish Employers' Associations, whereby arrangements were made for collaboration on certain questions between the General Federation, the Central Federation, the Shipowners' Association, and the Association of Employers of Agricultural Labour. It should further be mentioned that certain steps have been taken to facilitate collaboration between certain of the Swedish employers' associations and corresponding combinations in Norway, Denmark, and Finland.

Legislation on "ideal" (non-economic) associations.

The various attempts that have been made in Sweden to effect legislation for what are called "ideal (non-economic) associations" have been aimed chiefly at conferring on these associations a distinct legal status, that is the enjoyment of legal rights or, as expressed in Swedish law, the authority to acquire rights and to incur liabilities, as well as to sue and respond in court. From earlier times, it is true, official sanction had not been deemed necessary, in the case of associations, for appearing in legal proceedings and being recognized as being possessed of legal rights and liabilities. In practice, legal status is granted to every association whose organization has attained a certain degree of perfection.

But from 1895, when an act was passed making the corporate rights and liabilities of associations formed for economic purposes dependent on official registration, attention was called to the importance of regulating by law the activity of ideal associations. In 1901 a Royal Commission was appointed to prepare proposals for legislation affecting associations with other than economic objects. Two years later, the commission issued its proposals in the matter in question, and these, after having been submitted to several authorities, were brought before the Riksdag of 1910, together with a proposal for a revised law for economic associations, both proposals bearing the common denomination of "Law on Associations".

For acquiring unlimited legal status associations were compelled to have been registered, but at the same time non-registered associations were to be granted partial legal status, that is they could put in a defence when an action was brought against them, but they could themselves advance no claims in court or before other authorities. The bill, however, was rejected by the Riksdag, mainly on the ground that too little regard was paid to the development of ideal associations, as the enforcement of the law would have compelled these, to a great extent, to re-adjust their constitutional forms. The proposals, also, were deemed to be too far-reaching, owing to the combination of regulations for both kinds of associations.

In 1911 the Government introduced different proposals for provisions with regards to "ideal" and "economic" associations. As in the case of the former proposals, registration was conditioned for the acquisition of unlimited legal status, partial legal status being granted to non-registered associations. For the second time, however, the Riksdag rejected the proposed legislation for ideal

associations. It had become more and more apparent how difficult it was to frame uniform regulations for the various kinds of ideal associations in existence and to adapt the regulations to their peculiar forms of organization.

Finally, may be quoted some figures from an official investigation into the subject of ideal associations in Sweden, undertaken in 1910. Through local authorities, returns were secured for 10 654 ideal associations, of which 10 389 returned a membership of 1 175 317 members. A representative statistical inquiry, covering 78 selected central organizations, showed 21 793 branch-associations with 1 481 042 members. The last-named associations are grouped according to their objects and their constitutional forms in the following table:

TABLE 74. *"Ideal" (non-economic) Associations.*

Objects	Central organizations	Number of members			
		organizations for special trades	district-organizations	local organizations	private persons etc.
Religious associations	7	—	—	3 604	217 582
Temperance »	11	—	136	8 051	460 809
Philantrophic »	3	3	—	283	21 996
Political »	13	—	73	2 299	161 391
Social »	4	130	—	6	3 121
Trade »	10	7	—	777	32 795
Employers' »	9	26	—	112	6 814
Workmen's »	4	28	—	2 698	189 209
Shooting »	1	—	26	2 300	150 000
Sporting »	5	15	27	951	113 098
National defence »	2	—	25	—	11 275
Other »	9	—	11	205	112 952
Total 1910	78	209	298	21 286	1 481 042

Labour Disputes.

Strikes and Lockouts from 1859 to 1902. With regard to strikes and lockouts occurring in Sweden before the official statistics for labour disputes were started in 1903, information is given in the returns drawn up by Dr *A. Raphael* for the years 1859 to 1900. Since that time the investigations have been continued, on the basis of Raphael's notes, down to the commencement of the official statistics above mentioned, so that continuous statistical data on the subject of strikes and lockouts in Sweden are available since the end of the fifties of last century. On summarizing the returns in question for certain periods, the following facts are shown with regard to the number and extent of the labour disputes:

Years	Number of strikes and lockouts	Number of strikes and lockouts with information as to number of workmen affected	Number of workmen affected
1859—70	12	.	.
1871—80	51	18	8 583
1881—90	264	91	19 846
1891—95	251	91	11 329
1896—00	619	290	41 858
1901	118	50	4 633
1902	139	59	8 587

The first labour dispute of which information is available occurred in 1863, and in the following years of the same decennium there were a small number of strikes and lockouts, not amounting to 5 in any year. It was not until towards the end of the eighties that the disputes may be said to have assumed more considerable dimensions, especially in the industries connected with articles of food and consumption, clothing, timber, metal, earth and stone, building and transport by land. Numerous agricultural labour disputes took place between the years 1890—94, but were for the most part of short duration. The fluctuation in the number of conflicts in short periods is probably due principally to the changes in economic conditions, so that, for instance, in the prosperous years 1872—74, 1890—91, and 1896—1900, there was a particularly great increase in the number of disputes. The greatest number was in Malmöhus Län, after which come the city of Stockholm, Göteborg och Bohus Län. Most of the disputes are stated to have been strikes, and in more than half of the known cases the causes were questions of wages. The results are known for about half the total number of conflicts and were as follows for the years 1863—1902:

	Employers' conditions	Workmen's conditions	Compromises
Number of labour disputes . . .	152	353	243

The above statistical resumé does not include the so-called *General Strike of 15th—17th May, 1902*, which was due to political causes. From information contained in the special report drawn up on this subject, it may be stated that the number of workmen who took part in the strike may be estimated at about 95 000. This general strike had its centre of gravity in Stockholm and on the whole affected the towns to a much greater extent than the rural districts, where only large labour centres were affected.

Statistics with regard to *strikes and lockouts in the years 1886—1902* have also been drawn up by *O. Dahlquist*, from which may be quoted the following figures:

Years	Number of labour disputes	Number of workmen affected	Number of working-days lost	Years	Number of labour disputes	Number of workmen affected	Number of working-days lost
1886—90 . . .	157	9 964	187 640	1901	127	6 200	210 000
1891—95 . . .	149	9 629	402 270	1902	123	9 600	350 000
1896—00 . . .	440	46 187	996 800				

Strikes and Lockouts from 1903 to 1913. As already stated, official returns exist, drawn up by the Board of Trade (Kommerskollegium) — now by the Social Board (Socialstyrelsen) — for the time since 1903. These statistics are principally based on information obtained from the parties themselves, by means of a special printed form, and may be considered to be as reliable and complete as can on the whole be expected. The following figures give information with regard to the *number* and *extent* of the labour disputes in various years:

Year	Number of labour disputes started	Number of employers directly affected	Number of workmen directly affected
1903	142	478	24 571
1904	215	598	12 248
1905	189	847	32 906
1906	290	729	18 655

Year	Number of labour disputes started	Number of employers directly affected	Number of workmen directly affected
1907	312	818	23 540
1908	302	1 424	40 357
1909	138	8 188	301 749
1910	76	146	3 671
1911	98	1 920	20 576
1912	116	789	9 980
1913	119	204	9 591

Special attention is attracted towards the great extent of the labour disputes in 1905 when the mechanical workshops conflict embraced the entire country, in 1908, when harbour and building work all over the country was affected, and in particular in 1909, the year of the great lockouts and of the General Strike. A preponderating proportion of disputes took the character of strikes, although the number of lockouts was large, especially in the years 1907—09.

With regard to *causes*, the conflicts may be classified in the following manner for the period of 11 years:

Wages questions	1 277	Disputes regarding time of work	55
Questions of organization	272	Other causes	393

The number of disputes with regard to the right of association has been fairly small (51), while conflicts regarding the introduction of trade collective agreements have been more numerous. Many disputes have been caused by the engagement and dismissal of workmen.

With regard to the *results* of the conflicts, the following figures may be given:

Number of labour disputes concluded

according to employers' conditions	601	by compromise	681
» » workmen's conditions	609	with unknown result	106

The question of the *effect of organization upon the result* has been the subject of special investigation, by which it has been proved that the workmen have had much less success in the disputes in which they have lacked organization than when the contrary has been the case. This has also, as a rule, proved to be so in the case of the employers.

The number of *working days lost* by the strikes and lockouts which have occurred in various years is shown in the following table:

Year	Number of working-days lost	Year	Number of working-days lost
1903	642 000	1909	11 799 700
1904	386 000	1910	39 000
1905	2 390 000	1911	569 800
1906	479 000	1912	292 100
1907	514 000	1913	303 300
1908	1 842 200		

In the various years, special attention is attracted towards the high figures of 1905, 1908, and 1909. The particular disputes which contributed most to the loss of working days in these years have been mentioned above.

The official statistics also give special information with respect to *breach of contract* in strikes and lockouts, the manner of *settling disputes* — negotiation, conciliation, and arbitration — and the cessation of work in the *State* and *communal service.*

With regard to *the great conflicts of 1909*, the following statistical details may be quoted from a special report. The General Strike and the lockouts connected therewith affected 8 000 to 9 000 works and about 300 000 workmen. The total economic loss of the employers is estimated to have amounted to at least 25 million kronor. The number of working days lost by the workmen amounted to 11 071 000, of which 3 945 000 fall to the account of the lockouts and the remainder to strikes. If the total number of working days lost is divided among the 300 000 workmen, the average time lost by each workman amounts to 37 days or $1^1/_3$ months.

On the calculation of 3·51 kronor per working day, the economic loss per workman amounts to 130 kronor, or for all the workmen together, 39 million kronor.

Conciliation and Arbitration in Labour Disputes.

The necessity of finding expedients for the settlement of disputes arising between employers and employees, for obviating industrial work being brought to a standstill by strikes or lockouts, and for terminating such cessations of labour as do occur, has long made itself felt in Sweden as well as in other industrial countries. Sweden, however, continues to be one of the few countries where ad hoc institutions, *Industrial or Trade Courts*, are still wanting, where consequently there is no machinery ready to hand for settling *judicial controversies* (disputes respecting, that is to say, the interpretation of the clauses of a contract), whenever such arise between masters and men. Moreover, in regard to *disputes affecting* their several *interests* (e. g. when the stipulations of a new contract or agreement have been under discussion) and with respect to such questions in general as the avoidance and termination of a cessation of work, the two parties, employers and employees, have been constrained to rely upon their own devices, without any intervention on the part of the State either legislatively or otherwise. An alteration in that state of things was, however, introduced in 1906, for in that year there was passed the *Intervention in Labour Conflicts Act* (see below).

Voluntary Organizations for Conciliation and Arbitration. That being the case, it is hardly to be wondered at that during the recent thirty or forty years the number and extent of the *stoppages of work* occurring in Sweden have been, relatively speaking, very considerable (pp. 648 foll.). A realization of the baneful consequences of those repeated stoppages of work, often occasioned by very trivial circumstances, began by degrees to become so clearly borne in upon the minds of employers and employees alike, that by and by the cases became more and more numerous in which the conflicting parties sought to arrive at a solution of their quarrel by means of organized negotiations, both when it was a question of preventing a strike breaking out and when one already broken out was to be brought to an end.

Even at an early stage it now and then occurred in connection with those negotiations that persons were called in to conduct them who had no direct interest in the issue; such impartial coadjutators were now requested by

the parties to the quarrel to act, now empowered by some official body to mediate with a view to concluding some conflict of more serious dimensions. In that wise several extensive labour disputes in the course of the last few years have been settled, i. e. by a *method of conciliation,* others again have been brought to an end through the agency of a *Board of Arbitration,* specially appointed for the particular case in point. As a rule the proceedings have been conducted in both types of instances by a disinterested outsider.

For long enough people were content to rely upon a conciliation or arbitration organization devised for the particular occasion. The attempts that gradually came to be made, *by rules agreed upon beforehand,* to evolve some machinery for dealing with disputes when they cropped up, marked consequently a distinct advance. As an example, the settlement of the great building trades dispute in 1900 embodied stipulations prescribing the adoption of methods of arbitration and conciliation during the continuance in force of the agreement then drawn up. Similar arrangements were come to likewise in a number of handicraft trades from time to time. Probably the earliest in date was the scheme for arbitration adopted by the typographers to avoid the risk of disputes breaking out between masters and men.

As the *systems of internal organization* developed, first among the workmen and later among the employers of labour (vide special Article), and as *the plan of collective bargaining* in drawing up contracts or agreements came more and more into use, such definite rules for the avoidance of labour conflicts grew increasingly usual. Thus in the trade (collective) agreements, in addition to a prohibition, explicit or implicit of any cessation of work during the period for which the agreement is to hold good (nowadays, however, most frequently excluded so far as sympathy conflicts are concerned), stipulations are inserted providing for the settlement of any disputes or differences of opinion that may arise by means of a Conciliation, or more usually an Arbitration, Board, to be constituted of an equal number of representatives of the two parties and to be presided over, as a rule, by some impartial chairman.

In certain collective agreements of a national character entered into during the last ten years, more detailed *prescriptions as to the course of action to be pursued* in this regard have been laid down, e. g. for the *Tobacco Industry, Mechanical Works* and *Electrical Industries,* for *Building Trades,* for *Non-State Railways* and *Typographical Trades.* In all these prescribed courses of action there occur the following points: Questions at issue between the parties to be submitted to *more than one instance* for deliberation, boards to be constituted with equal representation from the two sides, under the chairmanship of a disinterested person, and elected, save in the case of the Mechanical Works, for a *prescribed period of time.*

As regards differences of principle existing in those various prescribed courses of action, the chief one is that in the case of the four first mentioned arbitration is only to be had recourse to when the dispute is a so-termed judicial one (i. e. bears upon the interpretation of the agreement in force), while for the typographical trades and the non-state railways arbitration is permissible in the last resort for the allaying of *all* divergencies of opinion arising between masters and men.

The course of action for adoption in case of disputes that is laid down by the collective agreement, only as a rule holds good during the continuance of the agreement and in general merely bears reference to the construction to be put upon the terms of the particular agreement in force at the time; it does not provide for the circumstances prevailing when a new agreement is in process of arrangement, that is to say not when the danger of difficulty is greatest. However, nowadays, that unsatisfactory feature is often eliminated by a rider

being added to the clause respecting the giving of notice of termination of the agreement, to the effect that proposals for a fresh agreement shall be handed in by a stated date and that negotiations to the same end shall be entered into. In certain cases attempts have been made to secure still more reliable guarantees against any serious impasse at critical junctures, of which some of the national agreements afford examples. Thus, in the tobacco industry agreement the clause laying down the course of action to be pursued for avoidance of stoppages of work is to remain in force for one year longer than the other clauses of the agreement that deal with the rates of wages to be paid, etc., the object being to ensure the continuance of peaceful relations for a space of time after the agreement proper shall have expired; that device has, moreover, been adopted elsewhere also. In the building trades the expiration of the national agreement does not either coincide with that of the local agreement in each case, besides which it is arranged that the National Arbitration Board shall continue to act for three months after the expiration of the national agreement. (During that period of time the prohibition of stoppages of work in relation to the drawing up of a new agreement shall also be in force.) As regards the non-state railways and their workpeople, the course of action to be followed in case of dispute is likewise laid down in a special main agreement, which embodies a prohibition of strikes and is independent of the particular local agreements; the latter are to be drawn up and all divergencies of opinion are to be settled in the last resort by an Arbitration Court. There is furthermore the prescription that for the industrial interests of those railways an *Agreement Board* shall be called into being (with the president of the Arbitration Court as its chairman), which shall be required, in the event of the main agreement being renounced, to prepare, and within six months to lay before the several organizations, matured proposals for another agreement on the lines of the one about to expire. The typographers' agreement, however, goes still further towards providing complete guarantees for the preservation of peace in their section of the labour world, inasmuch as it prescribes the constitution of a similar Arbitration Board for the *drawing up definitely* of a new agreement.

A general survey of the stage of development reached in Sweden by the movement on the part of the parties to industrial engagements to organize on their own initiative machinery for conciliation and arbitration, may be considered to yield the following conclusions: a) *that* the system has been relatively speaking largely adopted, inasmuch as the majority of the collective agreements existing embrace rules, more or less comprehensive in scope, as to the course of action to be pursued to avoid stoppages of work; b) *that* permanent conciliation and arbitration boards have been established for a large number of sections of the labour world; c) *that* the conciliation process is resorted to for settling disputes arising either from a conflict of interests or from the interpretation of existing agreements, but that the arbitration process as regards most sections of the labour world is only adopted when disputes arising from interpretation of agreement clauses are to be decided, it being only in the main in those sections of the labour world (e. g. railways and printing-offices), where according to general acceptation stoppages of work ought on no account to be allowed to occur, that conflicts of interests arising between employers and employees are also submitted to the deliberation and decision of an arbitration board; d) *that*, finally, definite conciliation and arbitration bodies empowered to come into operation when collective agreements expire, with a view to settling or preventing the occurrence of disputes and to promote the drawing up of fresh agreements, are still few and far between, though it may be assumed that the cases of their institution adduced above will be followed by others.

It may be worth while to call attention to the fact, that collective bargaining

had been established in connection with communal labour and public utility enterprises and was on the way to set on foot the same conditions as prevail in the railway world respecting the prevention of disputes, but that in the autumn of 1908 a conflict arose in Malmö between the commune and its employees, which along with the breaches of agreements in connection with the General Strike of 1909 put a stop to that development.

In conclusion, the circumstance may be noted that the Government, in intervening to bring the General Strike to an end, laid it upon the specially appointed Conciliators that they were to seek by all the means in their power to bring about a basis of agreement between the principal organizations of the two parties in conflict with each other, employers and employees, viz. the General Federation of Swedish Employers and the General Federation of Swedish Trade Unions, of such a character and scope that "disturbing interruptions in the labour world, due to stoppages of work, may as far as in any way feasible be obviated for the future". The proposals, however, that were framed for a course of action to that end led to no result.

Legislation. As early as 1887 a proposition was brought before the Riksdag by a private member for setting up under legal sanction an organization regarding arbitration in labour conflicts. Both that and other later proposals of the same tenor were, however, rejected. Not until 1899 did the Riksdag come to the decision that it was desirable that the Government should be urged to institute an inquiry and bring in proposals concerning the establishing of conciliation and arbitration boards for settling *conflicts of interests* between employers and workmen that threaten to cause cessation of work. In the year named the Government appointed a Royal Commission to carry out the inquiry, and their findings, which were ready by the year 1901, embodied a proposed decree respecting intervention in labour conflicts (both those arising from conflicting interests and those due to a disputed interpretation of agreements in force).

The proposal was laid before the Riksdag in the 1903 session, but was rejected; a body of experts, specially qualified for dealing with the question, then revised the proposal, after which it was passed by the Riksdag, session 1906. On the 31st of December, 1906, the *Intervention in Labour Conflicts Act* was promulgated and *Instructions for Conciliators* were issued; furthermore Conciliators were nominated for each of the *seven districts* into which the country was divided for the purposes of the Act.

The Act (§ 1) defines the functions of the Conciliator as being: "to seek to settle disputes between employers and employees, dissension among employers and between different groups of workmen, whenever such differences have any bearing or exercise any influence upon the labour conditions of the district". No distinction is made, consequently, between disputes arising from conflicting interests and those due to the different interpretation of existing agreements; the Conciliator is to deal with disputes of both categories. Of the two it is naturally the former that, as constituting the greater menace to the preservation of social amity, more essentially calls for the exercise of intervention. It is laid down in the Act (§ 2) that the Conciliator is to "be ready, if applied to, to supply employers and employees with information and advice respecting agreements affecting the labour problem that are calculated to improve the relation-

ship of masters and men and are likely to preclude the occurrence of labour disturbances". This particular branch of their functions has more especially come into play through a number of Conciliators having been called upon to act as chairmen of meetings convened to discuss the terms of a proposed collective agreement or the means of terminating a conflict; they have also been appealed to for the name of some other suitable person to act in the same capacity. The Act (§ 3) defines the principal duty of the Conciliator as being to summon the parties to a conference whenever any dispute between them has attained such dimensions as to involve actually a cessation of work; moreover, when it proves necessary, the Conciliator is empowered, after consulting the two parties, to appoint, *special experts* to form with himself a board to carry out the mediation in question. The last-named expedient has, however, been rarely resorted to.

The negotiations that the Conciliator sets on foot with the disputing parties separately and between them, are principally directed towards arriving at some basis of agreement in the form of a proposal or offer put forward by the disputants themselves, though the Conciliator is at liberty to make suitable suggestions for conciliation (§ 6). Conciliatory suggestions of that kind have indeed often resulted in a settlement of the conflict, but sometimes that consummation has not been reached until after they have been modified more or less, and occasionally they have had to be entirely rejected.

When unanimity cannot be attained in any other way, it is open to a Conciliator to propose that the matter in dispute should be referred to an *Arbitration Court* (§ 7) and, if the parties agree thereto, to assist them in the task of constituting a court of that character (§ 8). This method has moreover in a certain number of cases been put into practice, now and then even for matters involving a conflict of interests, in spite of the disinclination nowadays displayed towards allowing such to come before an Arbitration Court. *The Conciliator is not permitted* (§ 8), *to undertake himself the functions of Arbitrator;* he is not, however, considered by that restriction to be prevented, if requested, from appointing some other person to act in that capacity, and contending parties have often availed themselves of his help in that particular. In collective agreements especially it has been a fairly common thing for one clause to state that the odd man (the chairman) of any Conciliation or Arbitration Board or Boards that the collective agreement calls into being, shall be selected by the Conciliator of the District.

In cases where such a proceeding may seem desirable, the Government may appoint a Conciliator for dealing with one or more labour disputes of a special kind (§§ 11 & 12). That expedient is resorted to when a conflict that has arisen embraces more than one District (§ 11); the Conciliator is then generally the one belonging to the District where the dispute first arose, who consequently had to deal with it first, or else the one who owing to previous experience of conflicts of the same or a similar kind or for some other reason, may be deemed to be more of an expert in the particular department within which the dispute falls. On account of the recent consolidation in organization and owing to the centralization of the management of the unions representing the two parties, employers and employees, the Conciliator residing in Stockholm, the seat of the centralization referred to, has as a matter of fact had a majority of the more serious disputes to deal with, becoming thereby, as it were, a *Conciliator in Chief*. In certain cases the Government has ordained (§ 12) that the duty of effecting a mediation shall be entrusted to a *Conciliation Commission*, constituted of one Conciliator or other person along with some of the other Conciliators.

The Instructions issued with respect to the duties of a Conciliator strongly emphasize the necessity for the Conciliator to proceed with due caution and

circumspectness, pointing out that he must remember that it *devolves upon the employers and the employees themselves to decide whether or no they desire to avail themselves of his services.*

Supervision of the Conciliators is exercised by the Social Board (Socialstyrelsen), formerly by the Board of Trade (Kommerskollegium); that body is required to see that as complete a uniformity in the application af the Act as is possible prevails, and that the various Conciliators work in cooperation with each other. In conclusion it may deserve mention that the Conciliators are *in receipt of salaries from the Public Treasury*, and are not entitled to derive any remuneration or emolument from either employers or workmen for the services they render as Conciliators or otherwise. The calling in of their aid consequently entails no expense whatever. The same is the case with the special experts mentioned above; when they are required to do duty, they are remunerated for their labours out of the public purse.

As a complement to the above-given statements respecting the duties and work of the Conciliators, the following statistics may be furnished, culled from the Summary Reports of their work (1907—13), that have been issued by the Board of Trade and, recently, by the Social Board.

	1907	1908	1909	1910	1911	1912	1913
Labour Disputes reported upon, Number[1]	135	119	79	33	38	49	55
Negotiation Cases, Number	88	69	60	17	24	29	34
Without Stoppage of Work	29	31	14	7	10	6	6
With Stoppage of Work	59	38	46	10	14	23	28
Employers affected by the last-named Cases, Number	320	918	[2]723	92	1 756	671	110
Employees affected by the last-named Cases, Number	7 072	21 107	[2]28 186	5 214	11 509	6 148	8 976
Negotiation Cases where Conciliation was successful, Number	79	62	47	13	18	23	24
Percentage	89·8	89·9	78·4	76·5	75·0	79·3	70·5

[1] Only those in which Conciliators were called upon to act. — [2] Not including the General Strike, 1909, and the lockouts in connection therewith. There were 7 846 employers affected by it and 285 898 workmen.

Far-reaching proposals for further measures on the part of the State are at present being deliberated upon.

Labour Contracts and Trade (Collective) Agreements.

Labour Contracts and Contracts of Service. Sweden has no legislation directly applicable to labour contracts. Certain *contracts of service*, however, are still regulated by the Statute relating to Masters and Servants *(legostadgan)* of 1833, which Statute governs the powers and rights of the Master on the one hand and the position and duties of the Servant on the other.

In **manufacturing industry** and most other spheres of labour in which the Statute above referred to was formerly applicable, labour contracts are in Sweden no longer deemed to be contracts of service. The industrial workman performs in return for a stipulated wage a certain labour more or less precisely defined as to nature, time, and scope. Under the labour contract, it is true, the workman stands in a subordinate position to the employer and his representatives, but, as

a matter of course, only in the same manner as the subordinate official to his superior. The employer is no longer looked upon as a *master* by the workman, nor does the workman regard himself as a *servant*. Out of working hours the workman is under no definite personal obligations towards his employer, and when work is over, there is nothing to prevent them meeting as equals. On the other hand, the hired family domestic, and to some extent the agricultural labourer, signs himself over to devote his personal strength and skill to the performance of work which cannot be so precisely defined in the above-stated respects, at any rate not in the matter of hours. In consequence of that engagement, and still more so when, as is frequently the case, the remuneration consists to a great extent of board and lodging, the relation of superior and subordinate becomes a *permanent* relation, which is indeed the characteristic element of the mutual position of master and servant.

The Liberty of Trade Ordinance of 1864, which definitely swept away the trade restrictions of the Guilds, prescribes that the contract of service shall be drawn up in the presence of witnesses and precisely define the conditions of labour; and among those conditions the period of service, which shall not exceed three years. By a contract of this nature the employer secures a legal but limited power over his assistants and workmen, unless otherwise stipulated in the contract. However, this form of contract, which is technically known as *arbetslegoavtal,* has become obsolete in Sweden, and has not been heard of for years, except in a few extremely rare cases. The need of modern legislation on the subject is keenly felt, and investigations preparatory to such legislation have been going on for years. Proposals in this direction which were introduced into the Riksdag in 1910, and 1911 were thrown out.

The conditions of employment in industry, the crafts, and trade are governed, in default of legislation directly applicable to the subject, by use and wont, guided by general principles of equity; and labour contracts, especially in industry, are in a great measure standardized by collective agreements *(vide infra)*.

In **agriculture** and its accessory industries there are still considerable survivals of that form of labour contract which is regulated by the Statute of 1833 (see above). This form of agreement is also rather frequently adopted in engaging *domestic servants*. These Service Contracts (*tjänstehjonsavtal*) are obviously in many respects antiquated. Many of the enactments of the ancient Statute derive their historical explanation from a form of compulsory service formerly in existence, based on principles of public law and dictated by various considerations of public benefit. The problem which the legislators have to solve is to provide a modern law with regard to private contracts of service, without suppressing the ancient patriarchal and ethical relations subsisting between master and servant; for, even if those relations have long become impracticable and undesirable for by far the greater part of the labour market, it is both practicable and desirable to retain them for certain kinds of agricultural labour, or the like, and in the case of domestic servants. Proposals on this line which were drafted in 1900 have not been carried into effect.

As to **sailors** see special article, Part II.

As to workmen and employees in the **public service** see the article Labour conditions and Vorkmen's Wages, above.

Trade (collective) Agreements. Ever since trade-unionism, the product of the industrial revolution, made its ingress into Sweden in the eighties of the last century, the trade unions have been endeavouring to regulate the conditions of employment for their members by means of collective bargains. However, the first instance of collective bargaining in

Sweden was of a somewhat prior date: it was entered into in 1871, when a general scale of wages in the Stockholm printing trade was fixed after negotiations between the Compositors' Union and the Employers' Guild. Although the actual term had not yet come into use, there cannot be the slightest doubt that the agreement then concluded *was* in point of fact a collective bargain, nor that it was the outcome of those social and economic forces which can always be discerned at work behind these agreements. When the right of the workmen to organize themselves into unions was gradually recognized by the employers, collective bargaining became a comparatively common thing in Swedish industry, especially after the employers in their turn had begun to combine in unions of their own. Collective agreements reached their culmination, in point of frequency, at the ingress of the year 1909, when the entire number of these agreements amounted to considerably over 2 000, and the number of workmen affected by them to over 300 000; these figures, in the official statistics, include not merely the workmen directly engaged in these agreements, but all those whose conditions of employment may be deemed to have been actually, though only indirectly, regulated by the agreements. After the general lock-out and the General Strike of 1909 the number of collective agreements diminished rapidly.

However, the number of collective agreements in force on the 1st January 1912 was 1 476, and the number of workmen affected by them 229 792. The entire number of wage-workers employed in industry, trade, and transport was at that time about 550 000. However, collective agreements have also been adopted in other occupations than those just mentioned. The subjoined Table shows the number of collective agreements in existence at the period stated.

Number of Trade (collective) Agreements and of Employers and Workmen affected by them, on the 1st January 1912.

Occupations	Collective Agreements	Employers	Workmen
Industry (in a wide sense)	1 243	7 519	196 431
Agriculture and Gardening	12	46	816
Forestry	8	6	1 385
Trade and Warehouses	23	238	1 392
Transport by Land	154	402	21 683
Transport by Sea	7	301	1 997
Public Works	29	35	6 088
Total	**1 476**	**8 547**	**229 792**

During the year 1911 219 collective agreements were concluded in all, of which about 49 % had unions as contracting parties on both sides, about 48 % only on the side of the workmen, and 3 % on neither side, which latter case shows that even combinations of a more occasional nature are capable of concluding collective agreements. As regards their scope, the majority of the collective agreements are confined to a single establishment or factory. But where both the contracting parties have been unions, the local scope of the agreement has tended to expand into National collective agreements (besides intermediate forms).

About twenty national collective agreements (*riksavtal*) embracing all the employers and workmen belonging to the contracting unions *throughout the whole of Sweden,* were in force at the close of 1912. The period for which the collective agreements run varies in Sweden between a few months and (in a few isolated cases) six years; but in recent years the period has tended to be prolonged, just as the number of workmen affected by long agreements tends relatively to increase.

Collective agreements have obviously made for peace in the labour world in Sweden as well as other countries, even if from another point of view there appears to be a certain lack of proportion between the comparatively large number of agreements and the comparatively large number of strikes and lock-outs in spite of those agreements. What the collective agreements have affected in this regard, they have affected by regulating those very conditions round which most labour conflicts revolve, namely the hours of labour and wages. When collective bargaining was first introduced into Sweden, it unquestionably aimed at something more, namely the total exclusion of strikes and lock-outs during the term agreed upon. But when the workmen commenced to establish sympathetic strikes, and the employers in their turn resorted to lock-outs as a weapon of defence, people in general, and the big unions in particular, began to lose faith in the efficacy of collective bargaining as a *means* of averting strife. All that is attemped nowadays is to formulate the agreement in such a manner as to obviate strikes intended to compel the other side to accept new terms as to matters already regulated in the agreement, or conditions running counter to the provisions of the agreement. On the other hand, if a strike is made in order to gain some object falling outside the scope of the agreement, the general opinion nowadays, an opinion which is sometimes expressly announced in the agreement, is that the strike in this case does not constitute an actual breach of the agreement. Therefore, where there is an express intention of averting strife, the plan adopted is to insert in the agreement special regulations providing for measures to be adopted in case of conflict, or containing prohibitions against strikes and lock-outs arising from certain specified causes, or occasionally categorical prohibitions against strikes arising from any cause whatsoever. However, these kind of special regulations do not necessarily form an integral part of collective agreements. The nucleus of collective agreements is the scale of wages, and round that nucleus are clustered general principles relating to conciliation and arbitration, the apprentice system, the free right of workmen to combine in unions, the supervision of labour, the position of foremen in relation to the union, and so forth. These general principles are thus so intimately bound up with the scale of wages that they have effect only as long as the scale of wages is in force, and cease to have effect when the scale of wages ceases to be in force. However, in recent times endeavours have been made to free these general principles from their dependence on the scale of wages by lifting them bodily up into a kind of superior collective

compact transcending the ordinary collective agreement, just as the ordinary collective agreement transcends the individual contract. This transcendent position appertains in some measure to the national trade agreements *(riksavtal)* and to the regulations as to conciliation and arbitration contained in them. The first decisive step in this direction was taken in the *riksavtal* which was concluded in 1905 in settlement of a great labour conflict in the Mechanical Works Industry.

The most instructive and most characteristic instance of independent regulations as to conciliation and arbitration is afforded by the agreement (entitled "Main Agreement, No. 1"), entered into in 1909 by the union of the employers in the railway companies and the union of their employees. According to that agreement, lock-outs, strikes, blockades, boycotting, and the like, are totally and entirely excluded, and compulsory conciliation or arbitration is prescribed for *all* disputes of whatsoever nature they may be. Compulsory adjustment is thus extended not merely to questions of interpretation but to the actual substance of future agreements. Accordingly, under this agreement the actual conditions of employment may in the last resort be determined by arbitration, if the parties have not already come to terms through the medium of negotiations or conciliation.

The question as to the regulation of collective agreements by legislative measures has been on the carpet since 1907, when the first investigation into the subject was officially instituted. The proposals of 1910 and 1911, which, as has been mentioned, were thrown out by the Riksdag, provided first and foremost for laws relating to collective agreements and to a Board for disputes arising from such agreements. The reason why both these proposals were rejected was the difficulty of coming to terms as to the range of legal force to be assigned, in the interests of industrial peace, to collective agreements over and beyond the legal force inherent in the very nature of those agreements and its regulation according to the civil law.

Labour Exchange.

From the natural desire of both employers and employees to get a knowledge — when entering into contracts — of the existing supply of labour and employment respectively, and to be able to make a choice, have arisen, in Sweden as elsewhere, the measures taken for setting up *public labour exchanges.*

In earlier times it was the duty of the craft-guilds to negotiate for labour for the needs of the crafts. As regards agriculture, the employers and labourers used to meet and to employ hands and take places respectively at the fairs, especially the so-called *people's fairs.* A private employment agency was also started early for procuring domestic servants in towns. Certain abuses in this activity, however, caused the State authorities to interfere, and there was established in Stockholm, during the years 1732—1735, a public "address office", where both masters and domestic servants in the metropolis were obliged to enter their names when changing servants or places respectively.

Labour exchanges on a business basis. The need of offices for bringing into communication employers requiring workpeople and workpeople requiring employment has greatly increased in the same degree as development has created large population centres, increased the possibility of movement, and otherwise made economic life more complicated and mobile, so that only with difficulty can the individual survey and cope with the labour market. Consequently, the private labour exchanges, managed on business lines, have rapidly acquired greater importance. However, this business had certain drawbacks, and moreover, some guarantees were needed considering the fact that, in the seventh decade of the 19th century, a steadily increasing number of Swedish servants were engaged in Germany and Denmark. In consequence of this, a legal regulation was considered necessary; this was brought about by the *Royal decree of November 28, 1884, concerning private registry offices.*

According to this proclamation, private registry offices may be established only with the sanction of the Governor of the Län. Such sanction is given only to a Swedish subject of good character, who is a responsible person, and has the reputation of being orderly and in other respects suitable. For any good reason the sanction may be withdrawn. These regulations also hold in respect to the permission to employ agents.

The owner of a private registry office who procures employment for anyone abroad has to find a security of 1 000—5 000 kronor for the fulfilment of certain of his obligations. When domestic servants, are engaged a contract is drawn up, in pursuance of which the holder will be held financially responsible, if the applicant does not obtain the place, if he does not receive the wages agreed upon, or is dismissed without any legal reason. A contract may not be drawn up unless the applicant exhibits a certificate of change of residence. The certificate is to be presented to the police authorities of the place of departure and the contract must be signed by the same authorities.

If a servant is sent abroad and does not obtain the wages agreed upon, he can apply to the Swedish consul, on whom the duty devolves of trying to recover damages or else of reporting to the Governor, who can compensate the servant from the security deposited by the owner of the registry office.

The owner is bound to keep a list, accessible to the police, of the persons who have got employment through him.

At present the authorities are examining the question of limiting the right of getting licenses to establish private registry offices and of supervising these more closely offices.

Labour exchanges on the basis of voluntary organization have also been arranged to a certain extent, especially for some highly skilled occupations, as for example, chemists' assistants, clerks, technicists, nurses, governesses, etc. Of a similar nature are the arrangements made by some training institutions for their pupils. In the same manner charitable societies try to help distressed persons, e. g. discharged prisoners.

Some unions of employers and of workmen have also tried, just as did formerly the associations in the age of the guilds, to provide for their members with regard to their wants in the matter of workpeople or employment.

A great many different forms are to be distinguished within different trades, registrary offices having been established, sometimes by the employers, sometimes by the employees, sometimes by both parties separately or jointly. These institutions, however, have not acquired any great importance, partly because only some few trade organizations are strong enough to establish, in a considerable number of places, proper offices. However, a great hindrance has been the pronounced spirit of opposition between the organizations of the employers and those of the employees, who in times of conflict try to use the labour exchanges as weapon in the labour disputes.

Public labour exchanges. The above-mentioned forms of labour exchanges have proved insufficient, and they also suffer from inconveniences. As they also have the common fault of not bringing about a regulated co-operation, in order to settle the supply of and demand for labour, the authorities have intervened by establishing public labour exchanges.

In 1902, some *towns* — Hälsingborg and Gothenburg — started organizing *communal labour exchanges.* Owing to excellent management, these offices won confidence and support, so that a great number of cities and large places soon followed their example. The Government having brought in a bill, the Riksdag of 1906 voted supplies for supporting such public exchanges as have certain qualifications and place themselves under State control. The *direction of the State,* exercised by the Social Board (Socialstyrelsen) (one of the bureau chiefs of this department is also inspector of the public labour exchanges), has considerably strengthened and furthered the development of the public exchange.

The State has mainly aimed at ensuring that the labour exchange work is free of charge as well as impartial, and that it is organized so as to be of use to the whole country and to all trades. Isolated communal offices having been formerly established in large places, now a system of *län exchanges* has grown up, with which the communal exchanges are joined. The organization of the län exchanges varies according to the circumstances and resources of the different läns. To a *central office* in the chief place in the län is generally joined a greater or smaller number of *branch offices,* exceptionally also *agents.*

Under the direction of the State (especially at meetings arranged by the State) *uniform methods of working* have been adopted as well as a *system of registration* which allows of quick control and a good survey of the labour market. The statistics gained through the offices are of great importance, not only for their activities, but also for their knowledge of the labour market, unemployment, etc.

By covering the expenses of correspondence, telephone, and telegrams, the State has tried to encourage the co-operation of the exchanges in order to even out the supply and demand for labour. To the same end, a system of lists of vacancies, i. e. lists of vacant situations and of applicants, has been introduced. Such lists are drawn up for every exchange (with specified statements for every office), for the districts, and for the whole country (*"the national list of vacancies"*), drawn up and distributed by the Social Board (Socialstyrelsen). Furthermore, the State has made a grant for covering part of such losses as an exchange may suffer by *advancing travelling expences* to workmen.

The development and the results of the work of the public labour exchanges since 1906 are shown by Table 75.

TABLE 75. *The Public Labour Exchanges.*

Year	Number of offices			Number of		Number of situations filled	
	Län offices		Independent offices	applications	situations offered	Total	Agricultural labour
	Central offices	Branch offices					
1906	—	—	9	51 300	51 200	31 100	2 100
1907	—	—	10	68 400	64 500	36 600	2 800
1908	3	15	10	98 000	67 100	39 800	6 400
1909	6	25	8	126 300	84 500	52 000	10 800
1910	13	39	13	143 300	103 600	67 000	15 500
1911	16	53	14	164 800	125 000	84 800	20 700
1912	18	61	14	190 200	152 500	105 000	25 800
1913	18	68	14	201 000	172 700	118 000	28 200

Having undergone a steady and vigorous development, the public labour exchange work now covers nearly all the läns in Sweden and will probably soon extend its activity even to the few remaining ones. The system thus having been on the whole completed, the authorities have taken into consideration the question of supplementing it, specially with regard to some categories of applicants, in the first place school-children, apprentices, and persons desiring to enlist in the army and the navy, or desiring to get a civil post after serving their time. Steps have also been taken for assisting, by means of the public labour exchanges, Swedes abroad, who wish to get employment in their native country.

The Unemployment Problem.

In all countries within the temperate zone, the supply of labour in the labour market is dependent on the climate: in the cold season of the year it diminishes in those branches which cold weather either brings to a standstill, as in agriculture, or which it very greatly handicaps, as in the building trade and its affiliated industries. This fluctuation of the supply of labour in different seasons of the year is, obviously, still more marked in a country with such a northerly geographical position as Sweden. However, Sweden's long and cold winter not merely diminishes the supply of labour in agriculture and building, which are in their very nature season trades, but also — by the direct and indirect action of the winter darkness and frost — the supply of labour in those branches which are otherwise but little affected by fluctuations of temperature, as, for instance, the big export ore fields, the saw-mills and cellulose factories in the North of Sweden, dockyards, harbour works, the carrier trade, and so forth. This diminution of the supply of labour falls in the first place on the many unskilled workmen and casual labourers in these branches. These men, whose services can be dispensed with in the dead season, are dismissed when winter comes on. Hence all labourers engaged in agriculture and in the building trades, as well as the bulk of the unskilled workmen, which means the great majority of the working population of Sweden, are distinctly *"season labourers"*.

Under these circumstances, one might expect to find very extensive and very protracted unemployment in Sweden. Fortunately, this is not so: for one reason, because in the greater part of Sweden, and particularly in Norrland, *lumbering*

affords ample opportunities of winter work, opportunities which the agricultural population and the unskilled workmen from industrial districts who then migrate into the forest regions, avail themselves of regularly and in great numbers. In *agriculture* unemployment has as a matter of fact made itself but little felt; for in Sweden the great majority of farms are in the nature of small holdings, looked after by the owner himself with the assistance of his family; and as to the larger farms, they generally employ permanent hands; thus the farmer can count on having a supply of labour for his harvest, when it is otherwise difficult to get workers, and his workpeople can count on having employment in the winter, when it is otherwise difficult to get work. Seasonal unemployment in other branches is further diminished by the fact that so large a part of Swedish industry, and especially some of the most important season industries (saw-mills, tile-works, sugar factories etc.,) are located in the rural districts. In the country it is easier for the unemployed to obtain work in the forests; moreover, a large part of the rural working population have either dwellings of their own, or facilities for renting cheap dwellings; and most of these dwellings have a small farm, or at any rate a plot of ground, attached to them. However, in spite of these counteracting factors, seasonal unemployment makes itself very keenly felt in the Swedish labour market, especially among the unskilled labourers living in the cities: these workmen, as a rule, can get no other work in winter time than casual jobs, such as clearing away the snow, cutting ice, and the like.

The grave evils always attendant on seasonal unemployment, assume in times of economical crisis the character of acute social distress among the working classes. The ranks of the season-wise unemployed, who, in periods of crisis, have less prospect than ever of obtaining in winter time temporary employment in other branches, are then swollen by the victims of those whom the industrial crisis has thrown out of work. A situation like this occurred in Sweden, as in other industrial countries, during the general period of depression in the world market in 1908 and 1909. The relation between supply and demand was thereby so alarmingly thrown out of gear, that the Government found it necessary to set on foot two *unemployment censuses,* which were instituted in January 1909 and 1910, on the same day, in all towns and large industrial communities throughout Sweden. Notwithstanding that the matter was purely voluntary, and that the returns had solely a statistical purposes, large numbers of unemployed repaired to the telling booths to fill in the enquiry formulas, namely in 1909 no less than 20 106, and in 1910 as many as 14 016. However, those who thus registered their names represented but a fraction of the total number of unemployed in Sweden: that number was estimated to have amounted during the winter of 1909 to at least 60 000, two-thirds of which appear to have been season labourers. During this critical period, as on previous occasions of a similar nature, the *communes* made arrangements for setting on foot public works, so as to provide the unemployed unskilled labourers in the towns with *extra labour* in the shape of excavation work, blasting, dock and road works, and the like. Public works of this kind were arranged for in the winter of 1908 to 1909 in 38 towns and in 14 rural *communes*, for an estimated cost of 1 236 110 kronor. The *State* endeavoured to keep as many of its works as possible going during the winter. Also many large industrial establishments in *private* hands — establishments which make it their business to turn out specialities and whose interest accordingly was to maintain a skilled and trained personnel at full strength — preferred sooner to curtail the hours of labour than to cut down the numbers of their working staff.

Conditions in the labour market improved with improving general economic conditions after 1910; but the bitter experience of the last period of unemployment

gave an impetus to the efforts directed to combat and mitigate the effects of unemployment, an impetus so powerful that positive and lasting results may at length be looked for in this department of social politics, which in Sweden has received too scanty attention. Indeed certain positive results have been already attained: such are, for instance, the gratifyingly rapid development of the *public labour exchange* system in Sweden during recent years, and the increasing interest taken by trade unions in the establishment of *funds for their unemployed* members. The State authorities have also begun to address themselves in earnest to the vexed problem of *unemployment insurance.* This question has latterly been ventilated on more than one occasion in the Riksdag, and it has now come up before the *Civildepartementet* (Home Office) for investigation. The Riksdag is also instituting an enquiry to ascertain to what extent all *public works* might be so adapted to *fluctuating* labour conditions, that the greatest possible facilities for obtaining work might be reserved for seasons of depression.

There are thus well-founded grounds for the hope that the Swedish politic will now stand better equipped to encounter the harassing effects of periods of depression, which the Swedish labour market has had all the more difficulty in coping with, as it has already been thrown out of balance by the inordinate amount of unemployment periodically recurring every winter.

Emigration.

An account has already been given, in connection with the article on the statistics of population (p. I, 141), of the extent of Swedish emigration; in the first place, the contributory causes were touched upon, and secondly, the main historical features of the movement were reviewed. A few general figures at once afford an indication of the dimensions of the emigration movement and its problems. Through emigration Sweden has lost more than a million inhabitants, or nearly one-fifth of its present population. Further, statistics show that Sweden is burdened with an abnormal proportion of old people and children of school age, but suffers from a shortage of men and women in the best years of life, as far as working-power and procreation are concerned. Thus, in 1910, the population of the country showed an excess above the normal of no less than 155 000 old people (above 65), while at the same time there was a deficit of more than 120 000 among people between the ages of 20—50, the period of life when the working powers are at their highest. The chief cause of this was emigration, which carries away the young and vigorous, and leaves behind the old, to be cared for by the Poor Law authorities, and the young children still at school.

It was not until the present century that measures which could really be said to be the outcome of a systematic policy for dealing with emigration were initiated, in spite of the periods of rapid emigration that occurred during the decades 1860—1890. As a result, on the one hand, of the great advance in Swedish industries, commencing with the beginning of the nineties, which provided possibilities for the support of the

surplus of population within the country itself, and, on the other, of a disquieting rise in the flood of emigration in 1902 and 1903, the matter was brought up several times in the Riksdag, with the result that the 1904 Riksdag made representations to the Government, urging that investigations into the emigration question should be set on foot, chiefly with the object of collecting statistics which should shed light on the matter. After having taken the opinion of the proper departments, the Government, in the beginning of 1907, entrusted the first actuary of the Central Bureau of Statistics, *Gustav Sundbärg*, with the task of conducting an exhaustive enquiry into emigration and its causes. In the performance of this task, a large number of scientists and investigators into social conditions rendered assistance; during the first few years, Docent Nils Wohlin acted as secretary in connection with the work of producing the report (published 1913).

The Investigation on Emigration. The roots of the emigration question lie deep, penetrating into the economic life of the country, into social conditions, and into certain psychological pecularities of the nation. It is not a limited and isolated problem, but really a *complexity of problems.* It is not unnatural, then, that the investigation of the question assumed large and far-reaching proportions.

In the first place, the investigation kept in view that aspect of the question which had to do with certain State measures for regulating, by means of legislation and prescription, the course of emigration, the system of emigration agents, emigrant traffic, and the like — the only systematic measures adopted in Sweden during earlier times. In this connection, a review was made of *the development of emigration legislation and its position in the different countries of Europe,* and a report was drawn up of *the legislation in force in Sweden for the control of emigration* and its application. To this was appended a special enquiry touching *Mormon propaganda.* There are two sets of enquiries which have been very important for the investigation of the emigration problem: the first comprises enquiries *among the emigrants themselves,* conducted through the channel of special agents on the Atlantic steamers, and *enquiries among Swedish settlers in the United States;* the other comprises a series of valuable enquiries, undertaken by specially qualified individuals, of the *rural districts* of some of the parts of the Läns of Kalmar, Älvsborg, and Värmland that have suffered most severely through emigration. Both these sets of enquiries aimed at affording a concrete view of the emigration question, by giving the emigrants' own views of the matter and their reasons for emigrating, besides providing for direct observations as to the economic and social conditions in certain typical districts affected by emigration.

Enquiries in a certain degree resembling these investigations are those comprehensive enquiries from *local authorities* and *officials,* such as the clergy, agricultural societies, the local police, provincial medical officers, forest officials; and of a similar nature, too, are a series of *pronouncements on the question, made at the request of those in charge of the investigation, by a number of Swedish scientists.* Finally, in this connection, mention ought to be made of a particularly notable presentation of *Emigration and the National Temperament.*

The broad foundations of the work of the emigration investigation are laid by the drawing up of comprehensive *statistics,* which, in the first place, present a

picture of the chief features of the *growth and movement of population in Sweden in particular, and Europe in general,* but which is broadened and deepened into a *statistical and economic review of Swedish industrial life,* particularly as regards agriculture.

In this connection, we are first presented with a detailed statistical description of Sweden, the chief purpose of which is orientation, and which give full *statistics touching the rural districts,* providing the necessary data for estimating the economic position of the different parts of the country. To this is added, on the one hand, a description of the *geographical conditions governing Swedish industry,* and, on the other hand, a series of *general economic surveys and comparisons,* which together present a complete picture of the economic life of Sweden, the different industries, communications, the population, and the movements of population.

The investigation then branches out in two directions, illustrating — always from the point of view of the emigration problem — partly the agricultural industry, and partly, though less comprehensively, the other industries.

With regard to agriculture, we are presented with two fundamental statistical accounts; on the one hand, an account of the *shiftings within the agricultural population* that have taken place in Sweden from the middle of the 18th century to present times, and, on the other hand, an account of the *cutting up of larger properties during the 19th century* — an important factor in the emigration question.

These problems, moreover, involve further special investigations concerning the *undermining of the peasant class,* which stands in connection with the disappearance of the hereditary principle, the cutting-up of land, and the assembling into larger estates of peasant properties. Another nearly related question is the rise, growth, and decline of the classes of crofters, cotters, and dependent tenants, with special reference to the *decline of the crofter class.* In connection with these investigations and the suggestions for reform in the matter of the policy guiding measures dealing with the holding of land — which indirectly suggest themselves — an account is given of the *small farms movement and the settlements in foreign countries,* in the British Isles, in Prussia, and in the United States.

In these accounts of the position of the agricultural industry lies the centre of gravity of the emigration investigations, so far as the fundamental enquiries involved in the so-called supplementary investigations are concerned. And this is quite natural, since it is chiefly from the agricultural classes that the ranks of the emigrants have been recruited. In connection, however, with the rapid industrialization of the country which the last few decades has witnessed, emigration has spread even within those groups of the population which depend for their livelihood on industries, trade, communications, etc. Consequently, the investigations have been obliged to take account of industrial life, though not to the same extent, since the industries are expanding and can absorb an increasingly great proportion of the excess of population, whilst it is exactly within the department of agriculture that development has ceased. Thus, within the department of industrial life, investigation has been limited to securing and publishing *pronouncements from Chambers of Commerce, Commerce and Shipping Boards and Committees, Associations, and private business men,* and to effecting one or two *special enquiries as to methods of work and the output of the American mechanical industry.*

Finally, one volume has been devoted partly to a series of communications dealing with *the settlement of Swedes in foreign countries,* and partly to the consideration of various special measures which have as their object the facilitation of the *return of emigrant Swedes to their native country.*

With a few exceptions, the investigations into the question of emigration have not yet led directly to State action. Thanks, however, to the clearer appreciation of the nature and importance of the emigration question, which has resulted from its ventilation by special enquiry and public discussion, progress has been achieved. By degrees private initiative, seconded by financial support from the State, has led to ever increasingly extensive, direct, and positive work in the direction of instituting a definite policy in dealing with the emigration problem.

Within the periphery of the work, so to say, we encounter, in the first place, efforts to preserve the Swedish language among the emigrants and endeavours to maintain contact with Swedish culture. Such efforts have originated with the emigrants themselves, in Europe as well as in other continents, especially the United States. They have been based on religious foundations: the so-called *Augustana Synod,* a union of the Swedish Lutheran congregations of North America, has, with its Swedish congregation-life, its teaching institutions, and its charitable organizations, afforded the most powerful support to the Swedish language and the traditions of Swedish culture in America. Other associations and the *Swedish newspapers* published there have also been of importance in the matter.

Not until recent years have these efforts been seconded by a corresponding movement at home, which is principally directed by

The National Association for the Preservation of "Swedishness" Abroad, founded in 1908. According to its statutes, the mission of this association is "to afford moral and economic support to the work for the preservation of the Swedish language and Swedish culture among Swedes living abroad; to promote the feeling of sympathy between Swedes at home and abroad; and otherwise to work for spreading a knowledge abroad of the Swedish language and culture". The Association tries to attain its object by co-operation with associations abroad, and by facilitating their contact and relations with the mother country. The Association has tried to arrange lectures before these associations about Sweden and Swedish conditions; it has also tried to promote the establishment of Swedish schools in the larger Swedish colonies in Europe and has assisted their activities. So far, however, this programme has not been able to be followed, except on a small scale. By the arrangement — in Gothenburg in 1912 — of *a congress for Swedes living abroad*, the Association has tried to focus the attention on its efforts of Swedes living at home and abroad. The Association publishes a yearbook as its organ.

In this connection may be mentioned certain preliminary measures to arrange, with the help of State assistance, *labour exchanges for the assistance of Swedes living abroad,* who wish to find a means of livelihood in the mother country again.

With the aid of the State, County Councils, Agricultural Societies, and the Communes, efforts aiming directly at preventing emigration have been organized during the last few years by

The National Association against Emigration. This Association was founded at a public meeting held in Stockholm, in the May of 1907. The

invitation to the meeting, setting forth the main features of the proposed programme, was signed by some ninety people in representative positions and belonging to different political camps and classes in society, chiefly members of both chambers of the Riksdag.

According to its programme, the Association aims at being representative of the whole country and proposes to work on an organized plan for the prevention of emigration.

Its activities follow two lines: firstly, *to spread information* on the question, and secondly, *to organize systematic, practical work* to combat emigration.

By means of its work of spreading information, the Association aims at promoting a vigorous and clear-sighted policy in the emigration question, and at increasing the knowledge of Swedish and American conditions among the people, especially the masses. With regard to the former object, the point is to shed a light on the problem by means of investigations and enquiries, especially by gleaning such information as can be gained from the countries where the emigrants have settled; this information can serve to guide the work at home and more particularly to suggest measures to check emigration. With regard to the latter object, the point is to counteract the current exaggerated impressions of prospects and possibilities abroad, especially in America, and to set forth the possibilities and advantages of the mother country before all other countries, especially for the native worker.

The work of spreading information is carried on partly by means of lectures (to which the Association had, up to the end of 1913, attracted about 135 000 hearers) and pamphlets, by articles in the newspaper press, and so on; partly, by means of the quarterly magazine of the Association, called *"Hem i Sverige"* ("Home in Sweden"), and its various series of publications. Thus, in the Association's series of pamphlets have appeared articles on the following subjects: *"The unevenness of the incidence of communal taxation in rural districts"; "The State domains and their administration"; "Industrial life in Norrland and Emigration"*. There have also appeared accounts of the Swedish *"Own Homes"* movement and of *Housing conditions in the United States,* etc. In the series, "Investigations concerning Swedish Industrial Life", have been published the results of more extensive investigations as to *the output of work, the economic development of Norrland during the latter half of the nineteenth century,* etc.

The *practical and economic* side of the work of the Association, aiming at the prevention of emigration, is chiefly concerned with giving advice and guidance as to means of livelihood in Sweden, and tries to reach the youth of the country, especially in the rural districts, from whom the ranks of the emigrants are chiefly recruited. For the performance of this side of its activity, the Association has started *information bureaus and labour exchanges;* these are arranged according to läns — chiefly in those where emigration has committed the worst ravages — and there is a central bureau in Stockholm. They follow attentively the labour market in the country, are connected with institutions for finding work for workers, with private employers, with the agricultural societies' "own homes" boards, and with "own homes" companies and societies. They also fulfil the mission of indicating where employment is to be found and where there is agricultural land for sale, and of negotiating the purchase or leasing of small parcels of land, etc. The bureaus try especially to help agricultural workers over the formalities encountered in connection with the acquirement of land — matters of surveying, legal confirmation of ownership, mortgages, etc. — and at the same time they try to exploit the possibilities afforded by the State "own homes" loan movement.

At the beginning of the year 1914, there were altogether 15 bureaus at work,

which had then carried through some 30 000 sets of negotiations concerning the securing of employment, "own homes" loans, the acquirement of land, naturalization and national military service, etc. for returning Swedish-Americans, whom the bureaus are specially anxious to assist in their efforts to make a living and gain a new footing in the old country. There is published a special organ for the activities of the Association in securing the transference of land, called "Svensk jord" ("Swedish Land"), which contains full particulars of small properties which are for sale.

Thus the chief mission of the Association is to act as negotiating party in securing workers a means of livelihood. Above all, however, the emigration problem involves the task of providing *new* possibilities of earning a livelihood for the increasing population. But only in one department has the Association been able to act directly and effectively in the accomplishment of this task — in the department of *agriculture*. And this it has done by trying to promote a rational development of the "own homes" movement, and thus to increase the prospects for the youth of the rural districts personally to participate in the utilization of the agricultural resources of the country. Considerable obstacles in the way of the activities of the "own homes" movement are, however, not only the formalities in connection with the transference of land and with the State "own homes" loans, but also, and chiefly, the difficulties of getting land at all that is suitable for small farms. These difficulties the Association seeks to overcome by the wholesale *cutting up of land*. The agents for this form of activity are *"own homes" companies*, founded on the initiative of the Association, or with its co-operation. These companies are founded for the purpose of buying cultivated land, or land capable of cultivation, and cutting it up into small farms. At the beginning of 1913, such companies were at work in nine läns (Stockholm, Jönköping, Kronoberg, Kalmar, Göteborgs och Bohus, Älvsborg, Värmland, Västernorrland, and Jämtland). At the same period, the total capital of the companies amounted to 400 000 kronor, of which the Association had contributed about 90 000 kronor. The means for this contribution the Association had obtained by its *"own homes" fund*, amounting to something over 130 000 kronor, the result of a national collection made in the autumn of 1909, with the object of assisting the "own homes" activities of the Association. Exceptionally also, loans are made out of this fund to private "own homes" enterprises. By the agency of the Association and its "own homes" company, 26 "own homes" colonies had been established by the end of 1914, and about 400 small farmers had been settled in them.

In establishing "own homes", the Association has devoted special attention to rational and economical building. Material which tends to throw light — from various points of view — on the modern Swedish art of arranging small homes has been collected and arranged by the Association, in the form of a permanent *"own homes" exhibition* in Stockholm, which, at the same time, aims at giving a general idea of the position and development of the "own homes" movement.

At the turn of the year 1912—1913, the Association numbered about 13 000 members, who are distributed according to läns into 13 local branches. Every year these branches nominate representatives, who meet in Stockholm and appoint a Central Committee, which is the responsible authority of the Association. In its turn the Central Committee appoints an acting committee, which is the body that chiefly directs the activities of the Association.

The economy of the Association is based on members' subscriptions, State grants, grants by County Councils, by agricultural societies, by communes, and by private foundations. In 1912 the Association's income and expenses amounted to about 68 000 kronor, and its total capital to nearly 200 000 kronor.

The central point of the National Association's efforts lies in the sphere of the *acquisition of land* and the *"own homes" movement,* besides which the Association has, in its work, laid stress on the *housing question's* importance in connection with the emigration question, and has tried to bring about State action in the matter.

The giving of help in the transference of land is carried on in two ways: firstly, the bureaus negotiate, free of change, the transference of agricultural plots that are in the market, and secondly, the "own homes", companies cut up considerable numbers of larger properties into small parcels. In the latter branch of its work, the Association has been able to avail itself of the assistance afforded by the State by means of its *"jordförmedlingsfond"* (Land Purchase Fund: fund in aid of land-transference), from which loans are granted to agricultural societies, companies, and associations, with the object of facilitating their purchase of large properties and cutting them up into smaller parcels, agricultural plots, and sites for dwelling houses.

The former branch of the work implies a new display of initiative on the part of the Association, which has since been followed by the State authorities, and from the year 1912 inclusive has been supported by State grants. A grant is made every year, amounting to 20 000 kronor, out of which smaller grants are made for the maintenance of bureaus to County Councils, Agricultural Societies, and private institutions suitable for the exercise of land-transference activity. It is the National Association against Emigration which, it seems, will derive the chief advantage from the grant, for its bureaus, in their capacity as land-transference organs, are among the number of the State-supported organizations for public land-transfer.

Thus, the entire work of the Association in the "own homes" movement is associated with work of the State in the same direction, which constitutes the only State measures undertaken hitherto in pursuance of any sort of systematic policy in the matter of emigration.

The Housing Problem.

The housing problem has in recent years been attracting greater and greater attention. It has been realized more and more clearly that sanitary and cheap dwellings are perhaps the very best weapon for successfully combating virulent diseases, such as consumption, as well as drink, immorality, and other social evils.

At the same time people have learnt that the housing problem is extremely intricate and is inextricably bound up with a number of other matters. Thus the housing question hangs together with the buildings-site market, communications, real estate credits, wages in the building trade, and so forth. Finally the rents of dwellings depend very largely on the habits and the standard of life of the population.

For obvious reasons the housing problem is a most burning one in the larger cities and rapidly developing industrial communities. In these places private building enterprise has failed in achieving a satisfactory solution of the problem in regard to the masses of workers who flock thither, and extensive measures from other quarters have proved to be imperatively necessary.

Workmen's Homes in the South of Sweden (Höganäs Mines).

How necessary these measures actually are will be best realized by examining the conditions in the capital. During the period from 1870 to 1885 the rents in Stockholm rose by about 60%; during the period from 1886 to 1893, when there was a plethora of dwellings they fell, it is true, about 25 to 30 %; but from 1894 to 1910 they have again increased by about 70 %. Whereas the average sum per hearth in 1894 was 118 kronor, it had risen in 1910 to 199 kronor.

Fortunately this state of things is not so alarming everywhere in Sweden. According to the data compiled by the Social Board, the average rent in 1911 for one room and a kitchen in Stockholm was 342 kronor, whereas for a number of large and small communities over the whole of Sweden it was 161 kronor. The corresponding figures for dwellings of two rooms and a kitchen were 526 and 268 kronor respectively. The rents of dwellings were comparatively high in the north of Sweden; the lowest rents were found in Småland and in the islands (Öland, Gottland, etc.), being 196 and 128 kronor respectively for one room and a kitchen. A statistical compilation drawn up in 1909 shows that the rents of dwellings consisting of two rooms and a kitchen were highest in Stockholm and Kiruna (540 and 482 kronor respectively), lowest in Falun and Kalmar (209 and 196 kronor respectively). More detailed statistics on this subject are not at present available.

In the genuine *country* the dwelling-problem obviously assumes a totally different character than in the towns and industrial communities. There, it is not the amount of the rents, but the character of the dwellings that is the essential matter. A number of workmen's dwellings in the country are wretchedly built and as wretchedly equipped; what is more, these dwellings are very

much crowded, owing to the pernicious habit of the country people of huddling together into a single room, even when the dwelling boast of several. The absence of any sort of supervision of dwellings is badly felt in the country as well as in the cities. Latterly, however, there is noticeable a distinct tendency towards ameliorating these conditions.

Workmen's "Egna hem", in Central Sweden (Åtvidaberg Factories).

A complex and knotty problem such as this obviously calls for many different kinds of specifics. An account shall be given in the following pages of the most important measures that have been adopted from different quarters.

State Measures. On the part of the *State*, the housing problem has been made the object of various sweeping measures. Thus, in 1907 the *Town Planning Act* authorized the urban communities to regulate and supervise building matters, while, under that Act, the proprietors of sites were obliged to defray a considerable portion of the costs incurred in the execution of the town plan. Further, the *Renting Act* of 1907 has clearly defined the legal rights of tenants as against the landlords, and considerably extended the rights of the former. The *Ground Lease*[1] *Act* has endeavoured to create a new system of leasing building sites, which the object of obviating undue speculation and the consequent rise of prices in the dwellings

[1] "Tomträtt", cf. below.

market. The antiquated *Buildings Statute* (applying to all the towns of Sweden) and the *Statute of Public Health* are in process of revision, and question of a *tax on unearned increment* has been repeatedly investigated.

The State has also contributed by indirect modes to the solution of the housing problem. Here it must suffice to mention that in 1912 there was appointed a *Dwellings Committee* in order to investigate the housing problem in its relation to the poorer classes, and the basis of that investigation to bring forward proposals for measures on the part of the State. In connection with this investigation, a comprehensive *census of dwellings* embracing both town and country has been set on foot by the *Social Board* on the basis of the census-papers of 1913 and 1914. State measures more directly bearing on the housing problem are those for promoting the "egna hem" ("own home") movement (see below), and for providing dwellings for certain officials in the State offices.

As regards *dwellings erected by the State for the benefit of officials in the State employ*, it is the State railways that have taken the lead. Dwellings for the regular staff of both higher and lower grades have been provided (1) in houses actually owned by the State railways, (2) in buildings belonging to the Widows' and Orphans' Pension Fund of those railways and rented by the railways, and (3) in other rented premises. The costs of the former class of dwellings were estimated at the beginning of 1912 at about 22 million kronor (out of which 11½ million fall to overseers and line-men), and for the latter at close on 6 millions. Out of the higher-grade officials there live in these dwellings 379, or 38·1 %, and out of the lower-grade officials 5 322, or 45·2 % of the total number.

The Pilot, Customs, and Telegraph Services and the Forest Service have also to a great or less extent provided dwellings for their officials.

Communal Measures. It is obvious that the communes are bound to take a great interest in the solution of the housing problem. High rents and insanitary dwellings effect the economy and health of the people, burden sick-relief and poor-relief expenditure, and diminish efficiency of work and ability to pay taxes. As a matter of fact, the larger towns particularly, where the rents are usually most expensive, have adopted a number of measures for procuring cheap dwellings, although these dwellings have as a rule not sufficed. The principal of these measures shall be recited below.

Censuses of dwellings, comprising all the dwellings within the purlieus of the city have been set on foot in Stockholm on eight different occasions, and are henceforward to be repeated every five years. At Gothenburg a census of this kind was made for the first time in 1905.

Investigations of dwellings with the object of ascertaining the conditions under which the poorer classes live have been instituted at Stockholm (in 1896 and 1902), Gothenburg (in 1889 and 1911), Örebro, Karlskrona, Uppsala, Linköping, Nyköping, Vänersborg, and Limhamn.

Inspection of dwellings as regards the poorer classes occurs, but only in a few towns. Only in four towns — Stockholm, Gothenburg, Uppsala, and Borås — are special officials appointed for the purpose. At Lund and Norrköping a resolution has been passed to appoint special female inspectors of dwellings,

and in certain other towns the inspection of dwellings is carried out in other modes.

Official Housing Bureaus, whose object it is to facilitate the letting of dwellings, exist only at Sundsvall, Landskrona, and Malmö, besides which the Town Council of Stockholm have made a preliminary investigation into the matter.

The municipalities extensively *support housing enterprises of philanthropic character,* primarily by granting building loans and providing building sites, on easy terms. Thus, for instance, the *City of Stockholm* has granted to societies and companies loans of altogether 2¼ million kronor, and provided sites with a total area of 50 000 square meters. The loans have been granted at low rates, on easy terms of repayment, and against the security of mortgages. As to the buildings sites, they are either let out cheaply, or else sold on the terms that the purchase sum shall be paid in the form of note of hand deposited at interest and against the security of mortgages. In order to check speculation and to provide a guarantee that the buildings sites shall really be used for the purpose for which they were intended, it is laid down amongst other regulations, that the dividend made by the Company shall not exceed 4 to 5 %, that the rent shall not exceed a certain fixed maximum, and that the City is entitled to call in the note of hand deposited as a security for the purchase sum.

Workmen's dwellings in the North of Sweden (Munkfors Works).

Similar modes of granting building loans and providing building sites on easy terms have also been practised at *Gothenburg,* and in a few other towns, such as *Västerås, Jönköping,* and *Linköping.*

Of a more important character are the measures which have been taken to *support the "egna hem" movement* (i. e. movement for one-family houses, owned or leased for a long period by the resident himself; see the section on that subject below.) The particular social and economic advantages attendant on small

"egna hem" with gardens attached have induced several towns to direct their efforts principally on these lines. It is primarily with the view of furthering the "egna hem" movement that the City of Stockholm during the years from 1904 to 1910 has acquired land property to the extent of 2 949 ares at a purchase cost of over 8 million kronor. Several other towns have purchased ground areas for similar purposes; thus, for instance, Eskilstuna has acquired 1 067 ares, Gothenburg 304 ares, Hälsingborg 275 ares, and so forth.

The form most extensively employed for the conveyance of the ground is conveyance with *freehold rights,* adopted by 25 towns. However, since the form of conveyance termed *tomträttsinstitut,* a kind of *leasehold,* has been introduced, this has been applied in several towns; however, it has not been tried on any extensive scale except at the "egna hem" colony established by the City of Stockholm at Enskede (see below).

As regards the mode in which the actual building is carried out, the proprietor of the site has usually been left to his own devices. It is only at Enskede that the commune itself has built a number of the houses, and this was done only at the outset, and in order to supply good models. On the other hand, the communes are tending more and more to contribute to the financing of the "own homes".

This has been done, for example, at *Nyköping* by collaboration with a savings-bank, and at *Karlskrona* by granting a building loan of up to 4 000 kronor.

The intrinsically most important "egna hem" enterprise is that which the *City of Stockholm* has created at *Enskede.* This property, of 607 ares, was purchased in 1904 for 2 million kronor, or about 33 öre per square meter. After the question of ground leases had been finally settled by law in 1907, the leasing of building sites began in 1908, the term of the lease being for 60 years. On the lease expiring the lessee has the option to the site, and should the lease not be renewed, he is usually entitled to indemnification for the value of the buildings. The rents vary according to the situation of the site and the use to which it is applied. The City charges 5 % on all its outlay. The buildings at Enskede have been erected partly by the City itself, partly by private persons or companies and cooperative societies, to whom loans or other forms of assistance have been granted by the City. In order to provide credit facilities, a special bank, called the *Stockholm Lease Bank* (Stockholms Tomträttskassa) has been formed, and has received a guarantee from the City of Stockholm for a bond loan of 5 million kronor. The said Bank grants building credit to the extent of 70 % of the estimated value of the building; when the buildings are completed, a loan repayble by instalments is granted at 5 % in interest to the extent of from 70 to 80 % of the value of the indemnification which the proprietor would be entitled to receive for them.

At the end of 1912 there had been erected at Enskede 414 buildings with 2 310 hearths. The population of the model city was 2 726 in 1912.

A similar "egna hem" colony has been planned at Bromma, another parish in the vicinity of Stockholm, partly for the benefit of the officials of the town.

Great interest has been displayed in the "egna hem" movement also at Gothenburg. The City has appointed a special "egna hem" board, whose business it is to superintend establishments of this kind within or without the precincts of the City. In 1910 200 ares of the City property was set apart for this purpose.

In rarer instances only the *communes themselves have erected dwellings;* where this has happened, it has been done for the benefit of the workmen employed by the communes.

It is only in Stockholm that any large experience has been gained in this line. As early as the seventies of the last century dwellings were erected for

certain classes of labourers whose work was located outside the boundaries of the town. But it was not until the nineties that demands for houses for the workmen employed by the City became urgent. Thus in 1899 it was resolved that six dwelling houses of stone should be erected for the city workmen. They were completed in 1901 and contained 273 hearths. The costs amounted to 570 748 kronor. In the same year further grants were made for this purpose, and in 1905 4 additional houses containing 175 hearths had been erected at a cost of 359 763 kronor. In 1908 2½ million kronor more were voted for workmen's dwellings within the area of the city, and out of this grant 1·7 million kronor had been consumed at the close of 1910, 730 additional hearths having been erected with the aid of this money.

Dwellings have moreover been erected for the workmen employed in the gas works and in the slaughter-house. In short, during the period from 1874 to 1911 an aggregate sum of close on 4½ million kronor has been granted for workmen's dwellings within the boundaries of the city, and for this money have been procured 1 728 hearths in 761 dwellings, out of which 53 with one room, 557 with one room and a kitchen, 109 with two rooms and a kitchen, and 18 with three rooms and a kitchen. The average rents per year are for one room 150 kronor, for one room and a kitchen 307 kronor, and for two rooms and a kitchen 434 kronor. At the end of 1910 there were 3 092 persons living in these dwellings.

Houses for workmen's dwellings have been erected by the *commune* only in a few other towns, and only to a very small extent.

Dwellings Societies. The erection of dwellings on the basis of *self-aid* occurs largely in Sweden. At the close of 1911 there had been registered 590 *dwellings societies*, a number of which, however, appear to have been dissolved without previous notice. As early as the seventies of the last century, thus long before the law intervened to regulate the management of societies, there existed dwellings societies in a number of the larger towns. The object of these societies was in many cases to procure for the members dwellings in houses of the tenement-type, built by the society itself. Out of some of these societies there sprang smaller societies whose mission was to acquire completely finished houses, intended as dwellings for its members. The number of members was thus in these latter enterprises limited by the number of dwellings obtainable. Some of these enterprises were dissolved, others were transformed into joint-stock companies, while again others were registered under the Economic Societies Act of 1897.

In Stockholm this earlier movement attained its culmination in the eighties under the pressure of very grave housing conditions. As a rule it was middle-class people, who took part in the movement. Each of the members owned his own dwelling and about 30 % of the capital had been invested by the members themselves. At the end of 1910 there existed in Stockholm 61 dwellings' societies with 77 real estates with an aggregate estimated value of over 16 million kronor, and containing 2 041 dwellings in which close on 8 000 persons were living. That this movement once so flourishing gradually died away, was due to unsuitable legislation, too high fees and rates of interest, etc. However in its day this movement conduced greatly to increase the supply of dwellings.

At Gothenburg there also existed a housing enterprise of earlier date, namely the *Workmen's Building Association* (Arbetarnas Byggnadsförening), which was

manifestly formed on a Danish pattern. The members paid certain weekly contributions for 10 years, and then were entitled to take part in a kind of house lottery. The members being numerous, and the sites purchased from the City cheap, the Association managed to erect 24 houses; they were built of the type known as *"landshövdingshus"* (provincial Governor's House), that is with the lower storey of stone, and the upper of wood, an arrangement which has proved particularly satisfactory at Gothenburg. When the dearth of dwellings began to decrease, the association was dissolved, and a considerable reserve fund, in spite of remonstrances on the part of many, distributed among the members. The favourable economic results of this enterprise have caused a number of smaller societies of a similar kind to be started, both in Gothenburg, where their number is estimated at about 200, and at several other places.

In recent times societies of other types have arisen, chiefly with the object of building "egna hem". These societies are to be found chiefly in the suburbs of larger towns, and in the outskirts of smaller towns. For example at *Västerås* there have been formed societies the object of which is to purchase suitable areas for building ground, which are subsequently parcelled into sites that are purchased by the members. When this mission has been fulfilled, the Society dissolves, or contents itself with attending to certain duties such as scavenging, road-making, and the like. In other quarters there have been formed "egna hem" associations which assist their members both with regard to building sites and building materials.

With regard to State loans in aid of small dwellings see the section: "The Egna Hem" Movement.

Philanthropic Housing Enterprises. In the work which has been accomplished in furtherance of cheap dwellings, a prominent place is assumed by the *philanthropic housing enterprises*, altogether their efforts have been confined mainly to the larger towns and their immediate vicinity.

By the enterprises of this kind that are in receipt of aid from the *City of Stockholm* there had been erected at the close of 1910 1 661 dwellings, out of which 913 with one room and a kitchen, 500 with one room only, and so forth. The average rent for a room was 178 kronor, for one room and a kitchen 253 kronor. In these dwellings 6 421 persons were accomodated.

Some of the most important enterprises of this kind shall be enumerated below.

One of the very oldest is the *The Workmen's Dwellings Fund in Memory of the 9th of Februari 1853*, which has erected, with the aid of State loans, several large houses with small flats. *The St. Eric Building Company* was established as long ago as 1875, and has erected dwellings for workmen in several parts of the town. *The Cheap Dwellings Company* has erected 5 one-storey houses, in which single rooms are let out at the rate of ten kronor a month. But far greater importance must be attached to *The Stockholm Workmen's Home Company.* That Company which was established in 1892 at the instance of Fröken Agnes Lagerstedt, has for its object not merely to build dwellings but also to contribute in various ways to the economical and moral welfare of the inmates. Advice and assistance is proferred through the medium of ladies, acting as landlord's deputies, who take up their residence in the Company's houses; sickness benefit societies are formed among the tenants; cooperative shops, children's workshops

(*arbetsstuga*), kindergartens, libraries, and so forth are housed in the buildings; and "vacation colonies" are organized to receive the children of the lodgers in summer time.

In the houses of the Company there were living in 1912 1 359 persons. The rents for one room and a kitchen range between 180 and 318 kronor. Although a large part of the lodgers are amongst the poorest of the poor, the rents have almost invariably been paid, and the shareholders have received the maximum dividend to which they are entitled, namely 4 %.

Amongst other philanthropic enterprises should be noted *the Vanadislunden*, *Holmia*, *Fridhem* and *Manhem companies* the two last of which are not limited as to the amount of the dividend and have obtained no privileges from the commune. The large five-storey houses belonging to "Manhem" accommodate about 3 000 persons.

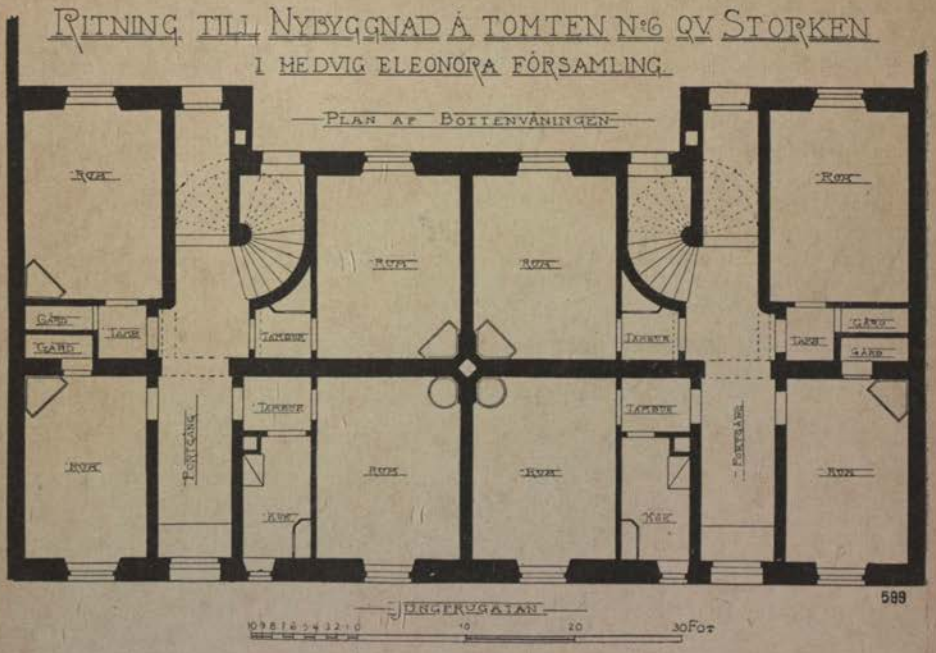
Houses for Workmen, erected by the "Robert Dickson Fund", Gothenburg.

Among enterprises of later date should be noted *The foundation Gowenii Minne* and *B. A. Danelii Donationsfond*. The former charitable institution, formed in memory of *W. C. Gowenius*, who bequeathed 1 million kronor towards its endowment in 1906, has hitherto erected two large dwelling-houses, accommodating 814 persons, and there are funds for one more such building. It is principally indigent persons belonging to the working classes, especially widows with children, that are provided with cheap dwellings through the medium of this institution.

The Danelii Donation Fund, which was founded in 1909, has a capital of 2 million kronor; the chief object to which that fund is applied is to provide cheap dwellings for women workers. The intention is that, when the interest

has accumulated to 400 000 kronor, a house shall be erected for that purpose, and subsequently two others of a similar character.

In *Gothenburg* philanthropic housing enterprises were in operation many years back. As early as 1847 to 1850 the City caused to be erected a number of wooden houses, which were eventually taken over by the charitable institution called *Robert Dicksons Stiftelse*, founded in 1858 by the merchant Robert Dickson, who died in 1858. The fund, which amounts to 330 000 kronor, is applied to the erection of dwellings for the poorer classes. The value of the buildings owned by the institution amounts at the present time to about 950 000 kronor. The rent is 10 to 19 kronor a month for one room and a kitchen, 21 to 32 kronor a month for two rooms and a kitchen. The houses are surrounded by spacious and neatly planted courtyards.



Plan of the Ground Floor in a Philantropic Tenement House.
(The Stockholm Workmen's Home Company).

Whereas in the case of the houses just referred to, it was the intention that they should remain the property of the institution, in the case of the houses erected conjointly by the *Workmen's Dwellings Company* and *the Gothenburg Savings-Bank* they should pass into the hands of the tenants when the instalments had been duly paid up. Building sites were purchased in 1873 by agreement with the City, and by and by a hundred houses had been reared, most of them "back-to-back" houses (*dubbelhus*). These houses, or rather half houses, were conveyed to the tenants on the following terms: a lump sum down and payment of a certain rent for twenty years, after which the house passed over into the possession of the tenant. As, however, no measures had been taken to prevent speculation, there happened what might have been expected: the rising prices of the sites induced many a house-owner to pull down his house and to cover the site, courtyard and all, with large tenements houses, so that the whole

original intention was frustrated. The entire enterprise has long since come to a complete standstill.

Workmen's dwellings have been erected by philanthropic societies also in some of the smaller towns. Thus, for instance, *Sundsvall's Workmen's Dwellings Company* at Sundsvall, and *The Company Godthem* at Jönköping.

A place apart must be assigned to the measures adopted to procure *satisfactory dwellings for unmarried men and women.* As to ummarried men, lodgings have been provided for them in those small hotels, situated mostly in dingy back alleys, called *"ungkarlshotell"*, that is "bachelors hotels". These hotels are by no means of a philanthropic character, but are business undertakings pure and simple. In Stockholm it has been estimated that from two to three thousand men are thrown upon the "ungkarlshotells" for a night's lodging in the winter. Grave complaints have been levelled against them, and some of them at any rate are perfect hotbeds of moral and physical disease. And in fact the City of Stockholm has resolved to erect an *"ungkarlshotell"* under its own auspices, though the actual form which it is to assume has not yet been resolved on. At Gothenburg an "ungkarlshotell" has been erected by a philantropic society in an old building.

As to *unmarried women* several enterprises have been set on foot. At Stockholm the society called *Hem för Arbeterskor (Home for Women Workers)* has built two homes accommodating altogether 110 inmates. The object of the homes is to counteract the living-in system (*inneboendesystemet*) by providing cheap and cosy dwellings for solitary young women of the working classes, and affording them facilities for a healthy home life and refined amusements. Moreover, thanks to a gift of 460 000 kronor, proceeding from an anonymous donor, to the City of Stockholm, a large edifice containing homes for working women has been erected at 35 Dalagatan, Stockholm. There are also similar homes for working women in other places, for example at Norrköping, Malmö, and other towns.

Dwellings erected by Employers. A special interest as regards the solution of the housing problem attaches obviously to employers. The efficiency of their working staff is to a certain extent dependent on their labourers having access to cheap and sanitary dwellings. In point of fact, the employers have in many places been active, either by erecting dwellings and letting them free of cost or cheaply to the workmen in their employ, or else by granting building loans and selling building sites on easy terms. The latter method appears to growing more and more common: a workmen likes to be independent as far as concerns his dwelling.

In the larger towns measures of this nature on the part of employers are, as might have been expected, few and far between. At Stockholm the *Rörstrand Porcelain Factory* and the *Bolinder Mechanical Works* have procured dwellings for their workmen on quite an ample scale, and at Gothenburg one notes particularly the workmen's dwellings erected by the porter brewery, *Carnegie & Co.*

However, it is obviously the industrial enterprises located in the very small towns and in the country that have principally contributed to procure dwellings for their labourers. A few examples will serve to show that they have set this about along different lines.

At the *Grängesberg* Mining-field in Bergslagen he Company has erected 479 dwellings of different types. Most of the houses contain four flats consisting

of a room and a kitchen. The costs (inclusive of basement, sheds, etc) nowadays amount to 3 000 kronor per flat. The rent is paid at the rate of 3 kronor a month. The married workmen that do not live in the Company's houses receive a contribution in aid of rent of 7 kronor a month.

At the *Malmberget* and *Kiruna* mines in Norrbotten there are several other types of houses than those here mentioned. Spacious, light and airy rooms have particularly been aimed at.

The *Huskvarna Arms Factory* in the new town of Huskvarna has done much to provide "egna hem" for its workmen. Thus, 180 homes have been erected on ground leased from the Company, the site being unsually 13 ares and the rent of the site 16 kronor a year. 190 "egna hem" have been erected on freehold sites. Finally some thirty "egna hem" have been founded by an "egna hem" society formed by the workmen themselves, who purchased ground and divided it into allotments. The assessed value of these "homes" is as a rule from 3 000 to 4 000 kronor, the yield in the shape of rent 120 kronor for one room and a kitchen.

Only a small number of the "egna hem" here were erected with the aid of State loans: in the majority of cases loans have been received from a bank with the Company as guarantor. In 1911 the Company had redeemed all the building loans for which it stood surety, and is now issuing loans of this kind itself.

The *Stora Kopparbergs Bergslags Works* at Falun has munificently contributed to the solution of the housing-problem. A special branch-company manages the different dwellings-colonies and has created a great number of "egna hem". Hitherto at the different works 290 dwellings, containing more than 3 000 rooms have been erected for a cost of 2 359 000 kronor, besides which 348 "egna hem" loans aggregating 850 000 kronor have been made to workmen. Further-more, many experiments have been made with different types of dwellings, accommodated to the requirements of the workmen.

At the *Sandviken Ironworks* in Gästrikland a large number of dwellings for workmen and officials have been erected by the Company. Those first erected were one-storey houses containing flats for four families, the most modern have two storeys with accommodation for 8 families. In recent times an "egna hem" colony has been established with one-family houses of 2 rooms and a kitchen.

At the *Åtvidaberg Factories* and *Boxholm Works* in Östergötland, at *Munkfors Works* in Värmland, at the *Höganäs Mines* in Skåne, and other industrial works extensive measures have been adopted to provide dwellings for the workmen.

Very promising work in this line has been done also in the genuine country. Take for instance the dwelling-houses for farm labourers erected at *Tjolöholm* Estate in Halland. The model for these dwellings was taken from the older buildings of the vicinity, and the picturesque cottages have been clustered in groups with gardens embedding each cottage. Model dwellings for workmen and tenants have also been erected at the *Bjärka-Säby* Estate in Östergötland, and at the *Tistad* Estate in Södermanland.

Note. It ought to be observed that the figures given above in the article refer, as a rule, to the year 1912.

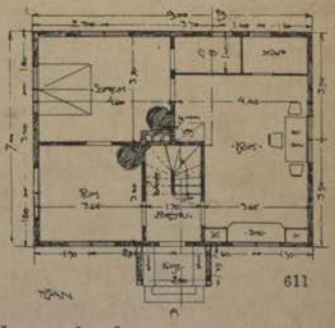
The "Egna Hem" ("Own Home") Movement.

The object of the "Egna Hem" movement is to provide facilities for persons of small means to establish "homes of their own". These "egna hem" (literally "own homes") may take the shape of either (1) *small holdings,* or (2) *dwellings,* in the country as well as in the environs of

the towns. As regards dwellings in towns, it should be noted that in Sweden the vast majority live in *flats*, and only a very small number of families have a house to themselves.

* * *

The chief difficulty which was at first encountered in Sweden in providing facilities for families of small means to establish homes of their owns lay in the obstacles which the law put in the way of parcelling the ground into small lots. Legislative measures intended to remove these obstacles were, however, in course of time brought forward, some of them at a comparatively early date. As far back as 1864 previous regulations as to the *minimum* area of ground that it was permissible to sever off from an estate were abolished. And finally by the Ground Parcelling Act *(ägostyckningsinstitut)* of 1896, a *new mode* of parcelling the ground was introduced.

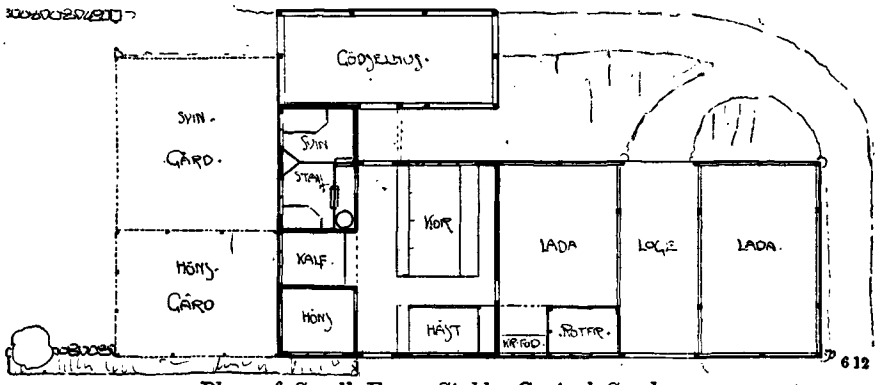


Small Farm Cottage, Bankesta, Södermanland.

The earliest measures on the part of the State that may be regarded as directly relative to the subject in hand were *sales of ground from State agricultural demesnes*, for the purpose of establishing thereon "egna hem".

After repeated proposals in the Riksdag and exhaustive investigations by a Committee expressly appointed for the purpose, the Riksdag in 1894 passed a law whereby small holdings might be severed off from the Crown demesnes and sold on favourable terms to people of small means desirous of procuring "homes of their own". However, chiefly owing to defects of organization, these sales did not assume any great dimensions. Up to 1909 inclusive, only about 1 500 holdings had been disposed of by the State under the provisions of the Act of 1894. In 1909 a Government Bill was brought before the Riksdag providing for new regulations on the subject, the aim of which was (1) to check undue speculation in holdings vended by the State, and (2) by dint of easier rates of payment, to facilitate the acquisition of these holdings

by the less well-to-do classes for whom they were primarily and originally intended. However, the number of sales of holdings under the provisions of the Act of 1909, from 1910 to 1912, did not figure out at more than three hundred.



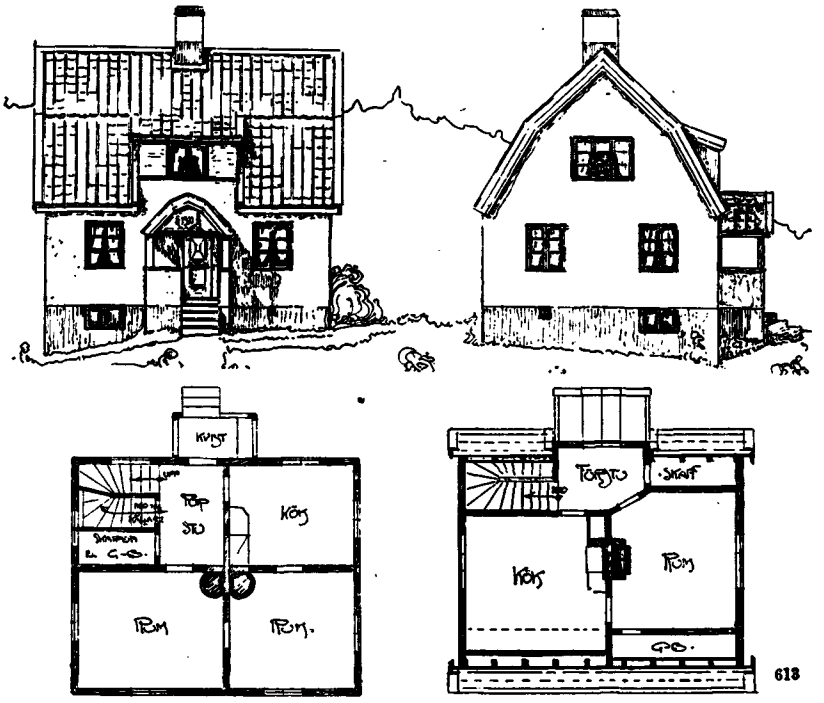
Plan of Small Farm Stable, Central Sweden.

The above data, however, have reference only to South and Central Sweden. The question of providing facilities for establishing "settlements" in the sparsely populated läns of Northern Sweden has been vivaciously discussed, and bills repeatedly brought forward on the subject, in the Riksdag. The first positive result in this direction that falls to be recorded is the law passed by the Riksdag in 1891, providing for sales of suitable holdings from the Crown demesnes to be cultivated as "forest crofts" *(skogstorp)*. In 1904 the Riksdag introduced certain amendments intended to ameliorate the "forest crofter's" condition, and in 1909 a law was passed whereby sweeping changes were made in the legislation on the subject. The effect of this amending Act was that (1) these sales of holdings were extended to all the six läns of Norrland (the Northern division of Sweden), and that (2) persons desirous of establishing "homes of their own" received more efficient State aid in furtherance of this object, and in certain respects more favourable terms of sale. Nevertheless, the result of these measures has been decidedly meagre, both in quality and in quantity: the number of sales up to the present moment of writing is not more than 1 204, out of which 338 fall under the provisions of the Act of 1909. The consequence was that in 1913 a Government Bill was brought before the Riksdag, providing for a number of modifications in the preceding Act, whereby its terms were tempered in favour of the "settlers".

In the meantime the idea had matured of affording more effective assistance to those about to establish "egna hem" by supplying them with *State loans at easy rates.*

In 1899 bills were introduced into the Riksdag for granting State loans to these "settlers"; the outcome af these bills was a "petition"

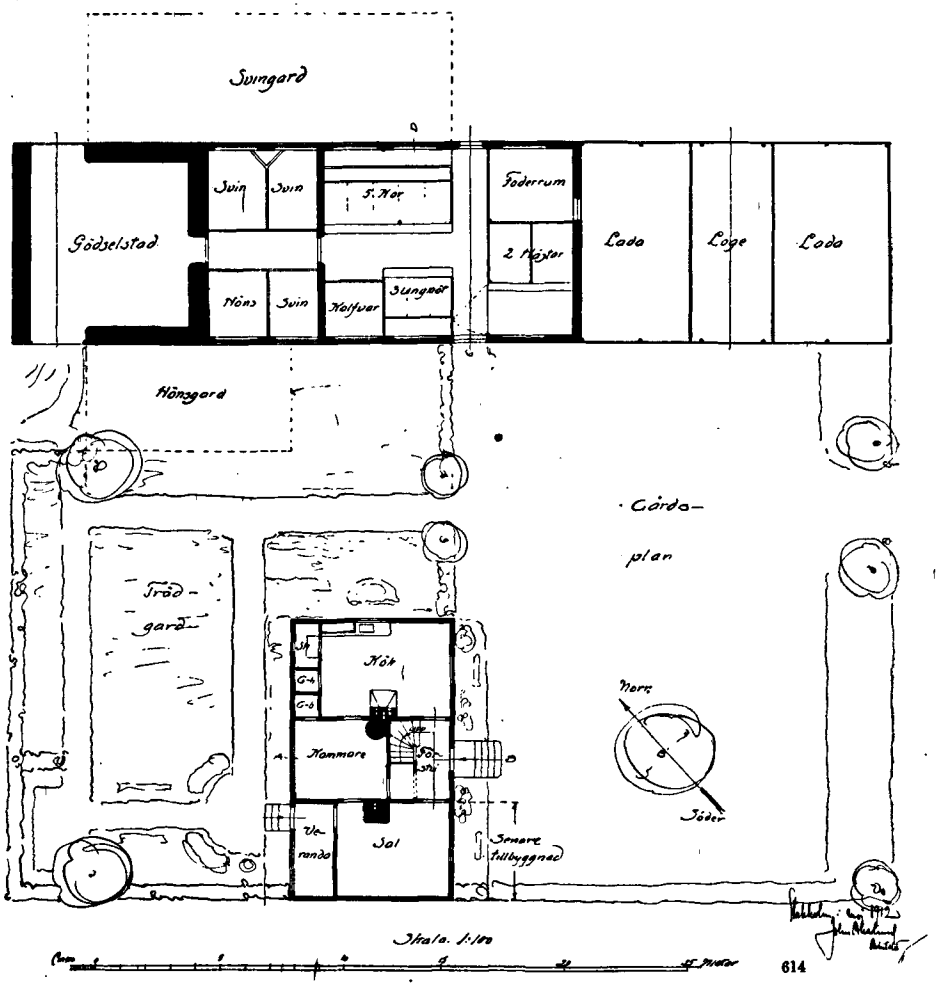
(skrivelse) to the King, requesting an investigation *(utredning)* in the matter. A Committee was appointed for this purpose in the same year, and on the basis of these proposals a Government on the subject was introduced into the Riksdag in 1904. The Government proposals were adopted in essentials, and the Riksdag 1905 resolved to vote a sum of 10 million kronor for this purpose.



Farm House, Central Sweden.

Under the terms of this Act loans shall not be granted by the State, direct to intending founders of "egna hem", but through the medium of institutions termed *"låneförmedlare"*. These intermediaries interposed between the State and the "settlers" are either (1) the Provincial Agricultural Societies *(hushållningssällskap)*, or else (2), entirely private institutions, namely those companies and societies called respectively *"egnahemsbolag"* and *"egnahemsföreningar"*, so organized and governed that they afford the State a satisfactory guarantee that the object of the State aid which passes through their hands shall actually be attained. The essential formal criterium in this regard is that companies or societies, in order to be approved as agencies for negotiating these State loans, shall not give their shareholders a greater dividend on the capital invested by them than has been determined in the articles of association or statutes, and that the regulations in this regard shall not, as long as the company or society holds State loans, be altered without the consent of Government. In accordance with these provisions, considerable funds are made over by the State to these institutions; the institutions in turn pass them on to the "settlers", collect the interests and instalments, and have something to say as to the

management of the new homes. The intermediary institutions, no matter whether the lenders fulfil their obligations or not, are entirely responsible for the State loans, both capital and interest, until both have been fully paid up. The principle is accordingly that the State supplies loan capital at easy rates, without itself participating in the administration of the loans, except to regulate and control. See the section on the Provincial Agricultural Societies, page 142.



Building Plans for Small Farms, South Sweden.

It was soon found that the Act of 1904, the Act which introduced the principle of State loans, was likely to prove effective. From the very outset people availed themselves of these loans with avidity. The funds which had been intended to last five years were already depleted after four, and a further grant of 800 000 kronor was made for that same year. At the same time a sum of five million kronor was voted for each of the years from 1909 to 1913. However, even these comparatively large

TABLE 76. *"Egna Hem" Loans granted out of State Monies.*

Year	Loans in aid of Farms		Loans in aid of Dwellings		Altogether	
	Number	Total amount of loan in kronor	Number	Total amount of loan in kronor	Number	Total amount of loan in kronor
Granted through Provincial Agricultural Societies:						
1905	664	1 421 880	245	371 380	909	1 793 260
1906	441	1 032 989	196	337 702	637	1 370 691
1907	645	1 673 475	366	736 220	1 011	2 409 695
1908	900	2 473 235	446	888 830	1 346	3 362 065
1909	987	2 698 355	365	697 600	1 352	3 395 955
1910	1 236	3 552 060	346	660 325	1 582	4 212 385
1911	1 036	3 019 160	307	595 350	1 343	3 614 510
1912	1 113	3 019 534	359	692 050	1 472	3 711 584
1913[1])	1 298	3 908 975	521	1 016 600	1 819	4 925 575
Total	8 320	22 799 663	3 151	5 996 057	11 471	28 795 720
Granted through Companies and Societies:						
1905	—	—	48	128 500	48	128 500
1906	—	—	13	25 300	13	25 300
1907	—	—	52	153 000	52	153 000
1908	56	238 429	250	693 900	306	932 329
1909	136	542 700	314	850 815	450	1 393 515
1910	76	316 150	195	537 010	271	853 160
1911	60	262 500	140	379 275	200	641 775
1912	70	301 800	84	223 340	154	525 140
1913[1])	109	502 100	321	871 384	430	1 373 484
Total	507	2 163 679	1 417	3 862 524	1 924	6 026 203
Altogether:						
1905	664	1 421 880	293	499 880	957	1 921 760
1906	441	1 032 989	209	363 002	650	1 395 991
1907	645	1 673 475	418	889 220	1 063	2 562 695
1908	956	2 711 664	696	1 582 730	1 652	4 294 394
1909	1 123	3 241 055	679	1 548 415	1 802	4 789 470
1910	1 312	3 868 210	541	1 197 335	1 853	5 065 545
1911	1 096	3 281 660	447	974 625	1 543	4 256 285
1912	1 183	3 321 334	443	915 390	1 626	4 236 724
1913[1])	1 407	4 411 075	842	1 887 984	2 249	6 299 059
Total	8 827	24 963 342	4 568	9 858 581	13 395	34 821 923

[1]. Preliminary figures.

sums have proved inadequate year after year. Hence in 1912, the Riksdag, — the move was taken by the Government — increased the funds available for 1913 by a further two and a half million kronor, so that the total grant for that year was seven and a half million kronor. The same sum was voted also for 1914.

In order to show how this movement has developed *subsequently* to the establishment of the *"Egna hem" loan fund (Egnahemslånefonden)* we append the Table 76, which gives figures for the loans negotiated during the period from 1905 to 1913.

The figures given above will serve to show that firstly the bulk of the loans have passed through the hands of the provincial agricultural societies, secondly that the companies and societies have been chiefly instrumental in transacting loans in aid of *dwellings*, whereas the provincial agricultural societies have been chiefly instrumental in transacting loans in aid of *farms*.

However, the bulk, or about two-thirds, of all the "egna hem" farms in aid of which State loans have been granted are *already cultivated* holdings, principally crofts *(torp)*, which the loan has enabled their occupiers to purchase outright as their own property. Only quite a small number of the holdings consist of new allotments, and are thus new "egna hem" in the actual sense of the term.

Cottages, Flen, Södermanland.

In recent years, however, a field of work has been entered upon which in many cases bids fair to be successful: to wit, the creation of new small settlements formed by parcelling large well-situated estates. An important step in furtherance of these endeavours was taken by the Riksdag in 1907 by the formation of the *"Land Purchase Fund" (Jordförmedlingsfonden)*, out of which loans are granted by preference to such companies and societies whose efforts are altruistically directed to the service of the "egna hem", movement, for the purchase and parcelling of large estates into small holdings and plots of ground. Loans are granted to the extent of four-fifths of the value of the property, and run at 4 % interest. The monies thus granted amount to 2 million kronor.

The utilization of the facilities afforded by the Fund is a matter of ***private*** initiative: the societies that have been chiefly concerned in this work are the "egna hem" societies formed in several of the provinces of Sweden by the National Association against Emigration, as well as certain "egna hem" companies and societies unconnected with the National Association; out of these latter the societies in the läns of Malmöhus and Kristianstad have been most active and successful. The principle governing the work of these societies is the application of sound and business-

like methods to the parcelling of the ground, avoiding the Scylla of inordinate speculation, on the one hand, and the Charybdis of injudicious philanthropy on the other.

Competent persons have been engaged in drawing up well-considered schemes for the parcelling of estates intended for "settlements": the too drastic parcelling of the ground has been sedulously avoided, the plan adopted being a judicious mixture of small and largish allotments. Several of these institutions have taken really very extensive measures, considering the slenderness of their resources, for irrigation works and the laying down of roads in the "settlements". In certain cases, and on the whole with success, the company or society itself has superintended the building operations in the settlements: by the purchase of materials on uniform lines, by the adoption of standard types of buildings, by bargaining with the builders for contracts to deliver completely finished buildings for a batch of holdings, it has proved possible very appreciably to reduce the costs of building.

Cottages. Jonsered, Västergötland.

The preliminary business connected with the estate having been disposed of, some of these institutions have endeavoured to keep their eyes on the development of the settlement, to provide educational facilities, to organize unions, and to improve the soil, where necessary, by irrigation works, manuring, and so forth.

The grand achievement of these enterprises is the pioneer work they have accomplished, often carried on under very precarious conditions. Their economic resources have in many cases not sufficed for systematic operations on a scale of some magnitude. However, the lines on which the development has hitherto proceeded affords a fair ground of hope that the capital the movement is so badly in need of for a more vigorous development will now be forthcoming.

As regards affording facilities for the creation of *small holdings*, the "Egna Hem" movement is entirely dependent on State aid.

As to "egna hem" in the shape of *dwellings*, what the State aims at is the actual country and the rural working population (including artisans), regarding this movement as a link in its efforts to check the outflow of the population from the country to the towns and town-like communities, as well as emigration to foreign countries.

However, as will be gathered from the figures given above, the number of "egna hem" in the nature of *dwellings* which have been created thanks to the financial aid of the State is only half the number of *small holdings* created in virtue of that aid; and, in point of fact, the loans proffered by the State are, under the regulations now in force, primarily intended for the establishment of small holdings.

However, quite independently of State measures, private initiative has accomplished much in the way of providing dwellings for people of small means.

The endeavours of the monied classes to fashion for themselves "homes of their own", in English style, beyond the purlieus of the crowded city, have thrown their weight into the scale.

In the environs of the capital, particularly, there have sprung up, at the bidding of well-capitalized business enterprises, several modern and well-ordered villa communities, such as *Djursholm, Saltsjöbaden, Lidingö Villastad* (Villa Town), and others.

There exist also enterprises for the poorer classes, though the villa communities which have been founded with that object — only excepting *Solhem* just outside Stockholm — can scarcely be said to be up to the mark in point of quality. In the first place, aimless and wanton speculation in building sites has in certain places, and particularly in the environs of Stockholm, frittered away capital which might have been more judiciously invested; secondly, the growth of these communities has been stunted by the lack of adequate facilities of communication; finally, but too few of these villa communities have commanded the resources in capital necessary for carrying to a satisfactory consummation the enterprises they had taken in hand.

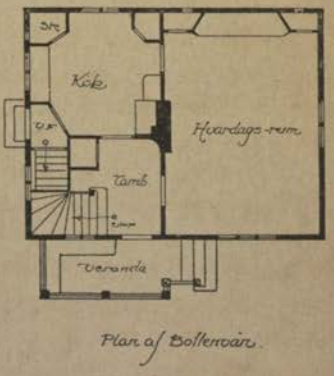
In certain cases, well-ordered "egna hem" communities for the labouring classes have been established by the efforts of State and municipality. Take, for an instance, the "egna hem" at *Trollhättan*, erected for the workmen employed at the Canal Water works, or the model "workmen's town", planned on an ample scale, reared by the City of Stockholm at *Enskede*, half an hour's journey southwards of the capital.

But far greater importance must be accorded to the endeavours made by a number of Swedish industrial enterprises in the country districts to provide "homes of their own" for the workmen in their employ.

In many Swedish industrial works the needs of the workmen in the matter of dwellings were supplied years ago. As some of these works are

situated in the depths of the country, far remote from the densely populated districts, it became an urgent necessity for the employers to provide dwellings for their workpeople. Nor has the problem proved difficult of solution: building material was cheap, working expenses moderate, and the ground was the establishment's own.

Even in our days these country industrial establishments are still numerous and exercise a profound social influence. It is gratifying to note that the grand old traditions represented by their workmen's dwellings built in the sterling fashion of former days are likely not to be abandoned under modern conditions. Many of these industrial works display a keen interest in catering for the needs of their workmen in the matter of dwellings, and a keen interest in the "egna hem" movement as a mean to this end. The economic staying power which is usually to be found at the back of *these* "egna hem" enterprises afford opportunity for testing various expedients, beyond the scope of individual persons with slender resources.



Plan of Bollervär.

Cottage at Enskede, Stockholm.

The following are important "egna hem" establishments of the kind referred to, some of them really model institutions: *Huskvarna* and *Limhamn* of earlier date; and, among more modern establishments, those at the several factories of the *Stora Kopparbergs Bergslag*, at *Sandviken*, at *Grängesberg*, *Malmberget*, and *Kiruna* mines, at the *Åtvidaberg factories* in Östergötland, and at the *Jonsered factories* in the vicinity of Gothenburg.

The aims and endeavours touched upon in the foregoing pages are, however, but a symptom of the ever-growing interest that people in Sweden have in recent years, from various points of view, economic, social, and hygienic, been focussing on the *housing problem* as a whole, in its relation to the poorer classes.

Cost of Living.

On every period of industrial and commercial prosperity complaint at the increase of the cost of living generally follows. For economic prosperity means rising prices of goods, which certainly lead to larger net profits than usual in business, provide possibilities of extending the output, and allow of the starting of new departments of manufacture, etc. But at the same time rising prices diminish the purchasing power of money, and consequently lower the conditions of life for persons whose income is fixed. The great changes caused in the value of money since very early days, by the variations in the production of the valuable metals, have also sensibly deranged the conditions of life for the masses. Thus it is known that the unusual rise in prices which followed the discovery of gold and silver in America had a most unfavourable influence upon the standard of living among wage-earners.

It was not till our own time, however, that these phenomena received more careful attention. A knowledge as exact and profound as possible concerning the cost of living and its changes, can be obtained from a regular and uninterrupted series of statistics on prices for the necessaries of life, dwellings, etc., as well as from information upon the size and composition of the housekeeper's budget for various incomes. Whereas the first-named set of figures is intended to give the average prices for different sorts of those wares that are found in the household budget, an investigation of the latter kind provides an opportunity of learning how the household expenses are distributed among the various entries in the budget and of estimating the quantities of the various foddstuffs, etc. consumed. Whereas official statistics of prices which are drawn up in most civilized countries generally consist of continuous reports (by the week or the month) on prices in a considerable number of places, enquiries into the budget, on the other hand (on account of the expense and trouble entailed), can only be undertaken at considerable intervals and to a limited extent. By means of extending such an enquiry to include a number of households, certain average returns can, nevertheless, be secured, and by their aid representative *normal budgets* may be drawn up for different groups of the population, and these, likewise, may be taken as being correct for a succession of years. A budget enquiry thus provides, among other things, information as to the normal quantities of different commodities consumed in a household of a particular type. By a simple multiplication of the quantities so obtained, by the figures taken from the continuous statistics of prices, a measure of the real importance for the cost of living of the variations in prices is obtained.

A Swedish budget enquiry comprising earlier times has been prepared by docent *E. Sommarin*, who has also endeavoured to ascertain the result of changing prices on the budgets of various times. This enquiry is limited to the economic position of miners and farmlabourers in Sweden from the 14th century till

1720. *I. Flodström*, actuary, on the basis of notices advertising prices in the "Dagens Nyheter", has drawn up statistics of rents, fuel, and foodstuffs in Stockholm, from 1876 to 1902. The same author also has relied on weekly quotations in the "Nya Dagligt Allehanda", which seem to deal with retail trade, in issuing statistics on market and harbour prices in Stockholm for foodstuffs and fuel from 1900—10. Running statistics on the retail prices of the more important necessaries of life at a number of places in Sweden have been published since June 1903 inclusive, by the *Branch for labour statistics in the Board of Trade* (now the *Social Board)*. A budget enquiry, intended to ascertain the cost of living in Stockholm for 1907—08, has been set on foot by the *Municipal Bureau of Statistics of Stockholm*. This enquiry is based on 150 house-keepers' books kept for a whole year, and the quantities consumed of the different necessaries of life taken from them are calculated for an average household in the less prosperous classes, consisting of husband, wife, and two children, with a yearly budget approaching 2 200 kr. By a multiplication of these quantities, so far as they concern the more important necessaries of life, by the prices quoted for Stockholm in the respective years for such commodities, a calculation has been made of the yearly expenditure of a similar household on the necessaries of life in question.

The changes in the outlay on food etc. are shown in the table below, for the years 1904—13, in a Stockholm household of the type referred to, and to this is added an index number after the absolute figures for the various years, starting to reckon from the total for 1904, which is set at 1 000.

Expenses for Food etc. in a household of small means in Stockholm, for the years 1904—13.

Year	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Kronor . . .	670	696	712	738	758	760	760	757	806	808
Index number	1 000	1 039	1 063	1 101	1 131	1 134	1 134	1 130	1 203	1 206

It is true that the quantities for Stockholm cannot be taken as applying equally to other places in the kingdom, but they may still be used for a corresponding calculation as to the cost of living in various years for the whole kingdom. In the survey subjoined therefore, so far as the more important articles of food etc. are concerned, these quantities are multiplied by the mean prices for the kingdom ruling the corresponding articles for different years, and an index number is added, reckoned on the basis of the total for 1905, which is set at 100.

Average Expenses for Food etc. in a household of small means for the whole of Sweden, 1905—13.

Year	1905	1906	1907	1908	1909	1910	1911	1912	1913
Kronor . . .	646	669	686	718	706	711	707	743	749
Index number	100	104	106	111	109	110	109	115	116

It is apparent from the figures adduced that, from 1905—08, an even and very appreciable increase in expenses has been experienced, amounting to about 11 % in the whole kingdom; it was even greater in Stockholm. The following years, up to and including 1911, show a steadiness and even a slight decline, which may certainly be ascribed to the crisis of 1907—08, and the consequent depression in economic life. A fall in prices did not commence until some time after the crises, which is to be explained from the fact that the returns on which are based statistics refer to retail prices and these suffer gradually

TABLE 77. *Calculated expenses for the most important Means of Subsistence in certain Localities of the Kingdom during 1912.*

Place	Annual expenditure on the important kinds of food etc. in kr.	Mean cost per place; each place 1 000	Place	Annual expenditure on the important kinds of food etc. in kr.	Mean cost per place; each place 1 000
Kiruna	811	1 112	Hälsingborg	727	997
Stockholm	806	1 106	Falun	725	995
Malmberget u. Gällivare	780	1 070	Norrköping	722	990
Sundsvall (town)	776	1 064	Gothenburg	721	989
Malmö	763	1 047	Halmstad	720	988
Karlstad	757	1 038	Söderhamn	719	986
Örebro	757	1 038	Umeå	716	982
Nyland	753	1 033	Kalmar	715	981
Uppsala	743	1 019	Borås	715	981
Sundsvall (Saw-mill-district)	743	1 019	Jönköping	714	979
Luleå	743	1 019	Västervik	713	978
Eskilstuna	741	1 016	Visby	713	978
Östersund	741	1 016	Kristianstad	711	975
Gävle	740	1 015	Kopparberg	696	955
Lund	738	1 012	Vänersborg	693	951
Boden	735	1 008	Domnarvet	693	951
Karlskrona	734	1 007	Linköping	681	934
Västerås	730	1 001	Tidaholm	677	929
Ystad	729	1 000	Växjö	674	925
			Motala	668	916

from reduction, in every case later than wholesale prices. In 1912 there occurred a fresh and very appreciable rise in prices of the means of life and the cost of living, through which the total of expenses for the former was brought up to a level which exceeded the figures of 1905 by no less than 15 %.

A fairly trustworthy expression of the cost of living in different localities may be obtained from the returns of official statistics for prices of goods, by multiplying them by the quantity figures which are obtained by the enquiries referred to, concerning household budgets for families of small means in Stockholm. In the report published by the Board of Trade of the prices for the kingdom of the means of subsistence etc., 1908—09, the method has been applied in calculating expenses for the most important means of subsistence in certain places of the kingdom during 1909. A corresponding calculation is given for 1912 in the Table 77, and the index number is added for the various places where the mean cost per locality, for all localities, is set at 1 000.

Moreover a grouping has been made by the Board of Trade, of places in the kingdom where *post officials* are stationed, numbering 258, according to the general cost of living for *1909*. In this connection, besides expenditure on means of subsistence, taxation and rent have also been considered. The result shows that the dearest places were in the neighbourhood of Stockholm and in North Sweden. The cheapest, on the other hand, were chiefly in Småland and the islands (Gottland and Öland), but also in the Läns of Kristianstad, Örebro, and Östergötland. Those of Västergötland and Halland may be classed among the cheaper.

Finally, we may point out that the Social Board is preparing thorough-going investigations into the cost of living, in cooperation with a number of larger communes in the kingdom. This, like the afore-mentioned on for Stockholm for 1907—08, is to be based on the method of examining house-keeping books.

For further information, see the article on Customs and Mode of Life p. 167.

Cooperative Societies.

A fair idea of the extent to which Cooperative Societies are disseminated in Sweden can be obtained from statistics compiled in 1912. According to these data, there were registered from 1897 to 1911 no less than 5 896 *societies for economic purposes*, out of which, however, 551 were eventually dissolved. Out of this total 3 800 are stated to fall under the head of *workmen's cooperative societies*, — 1 585 being building societies, and 1 187 Cooperative stores, while the remaining 2 096 societies were classed as *agricultural cooperative societies*.

In proportion to their population, the läns of Jämtland and Gottland boast of the largest number cooperative societies, whereas the läns of Blekinge and Jönköping contain the smallest.

The number of new societies formed attained its maximum in 1907, namely 729; in 1911 the number was only 323. The number of societies subsequently dissolved was greatest among workmen's societies, namely 443, or 11·6 %, whereas among agricultural societies it was only 108, or 5·2 %.

Workmen's Cooperative Societies. The most important undertakings, regarded from the social and economic point of view, within this category of cooperative societies, are the *cooperative stores* (*konsumtionsförening*) which in 1912 were estimated to number about 800 with from 125 to 135 thousand members.

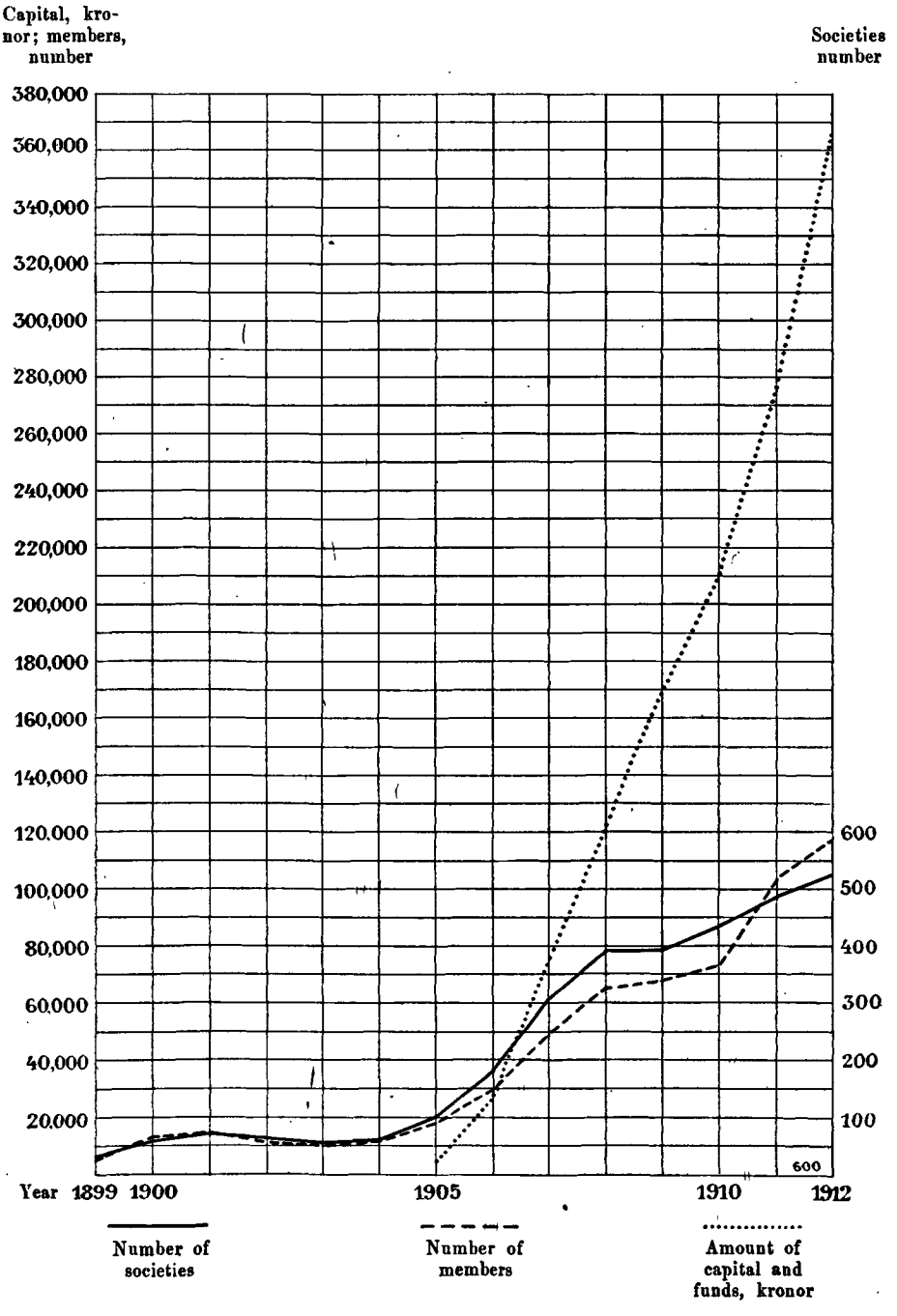
Besides these cooperative societies, there were a number of consumers' joint-stock companies (*handelsaktiebolag*) formed by, and for the benefit of, workmen, as to which more anon.

The cooperative stores in Sweden, as in other countries, are associations of consumers formed with the object of procuring articles of food and other necessaries of life cheaply, to distribute them equitably, and to carry on various kinds of production with this object in view.

Cooperative stores were formed as early as the sixties, on English models, and many of them are still in existence. In the eighties they underwent a vigorous development, thanks to the enterprises called workmen's rings ("arbetarringar"), but when these undertakings, whose mission it was to promote the moral and economic welfare of the workmen, began to decline, the whole movement came to a standstill, until in 1899 the Swedish *Cooperative Union* (Kooperativa Förbundet) was formed. Since that time the progress of the cooperative movement has been steady.

These societies are most widely disseminated in districts with a numerous industrial population, especially at manufacturing centres with large factories in the country. In the larger towns the societies are younger, and owing to the competition of private trading concerns, and the ebb and flow of the population, they have not achieved great success. The bulk of the members are workmen, although also farmers, low-grade officials, fishermen, and other professional groups have joined in considerable numbers. The movement has no political colour. A few societies have confined their operations to a certain calling (for example, to railway officials, non-commissioned officers, etc.), besides which there exists at Stockholm a large and flourishing society consisting exclusively of female members principally out of the upper and middle classes.

Societies, Members, Capital[1] *and Funds of the Cooperative Union.*



[1] The Union was registered as an economic society in 1905 (with joint-stock capital).

These societies are, as a rule, registered under the Economic Societies Act of 1895, which was amended and superseded by an Act of 1911. Prior to the Act of 1895, the members were jointly liable for the engagements of the society, which was a great handicap in its operations. Under the law now in force these societies may be formed either without personal liability or with personal liability limited to a certain fixed amount. The former mode of constitution has been that almost universally adopted. The number of members, as well as the amount of capital they are entitled to invest is usually unlimited: a minimum investment of 50 kronor is nowadays the rule, whereas formerly a share of from 10 to 25 kronor was the common thing. Each member has a vote. New members may be admitted and may withdraw at any time, although the societies may determine that a member shall not withdraw before two years have elapsed from his admission. The administration of the society is in the hands of a board of from 5 to 7 members, and business operations are managed by a director with assistants. Members' meetings are held from one to four times a year.

Owing to the obscure formulation of the Act of 1895, it long remained a moot point whether members were entitled to trade with non-members, and this matter gave rise to numerous difficulties. By the construction the law received in 1911 the societies are entitled to deal with others than members, though in that case all transactions must be in cash.

The cooperative societies are as a rule constituted in accordance with the Rochdale system. Thus the prices of goods are the same as those current in the locality, and any surplus that accrues is distributed among members at the termination of the year — as a rule after 5 % has been appropriated to interest on the shares, and after certain amounts, determined by the statutes, have been written off and funded — in proportion to the purchases made by members. In all properly conducted cooperative concerns transactions are in cash; frequent exceptions, however, still occur.

When the cooperative stores first started their operations, they committed plenty of blunders in economic matters, and it was not in the least surprising that a large number of the societies were eventually dissolved (from 1897 to 1911 no less than 259, that is, 218 % of those registered, to which there fall to be added 170 that failed to give notice of their dissolution). A good many of the societies that were dissolved had been in the Bankruptcy Court. Some of the causes of the failures were, for instance, an extensive credit system, too small a share capital (which renders it practically impossible to purchase goods on favourable terms), bad management, and so on. However, the number of societies dissolved per year has been steadily diminishing, which is due in a great measure to the efforts of *Kooperativa Förbundet* (the Cooperative Union), which has been doing its best to induce the various cooperative societies in the country to conduct their business on sound commercial principles.

It is worth noting that several of these enterprises that are now on the top rung of the ladder began in very modest fashion. It was by no means an uncommon thing that the members of the board themselves at first took in hand the practical management of the business. An example in point is *the Gävle Workmen's Cooperative Store*, which was formed in 1899 with only 34 members, with little more than 1 000 kronor by way of capital, and with a turnover of only 36 722 kronor to show as the result of the first year of its existence. Since that time the Society has been steadily and persistently developing, and at present it is the owner of 10 grocers stores, 2 meat stores, 1 boot store, 1 milkshop, a tinned meat factory, a small-beer brewery, and a dairy.

The Society, which now only deals with its own members, had at the close

of 1912 4 124 members on its rolls, and an annual turnover of 869 000 kronor. The increase in the turnover 1913 was 110 000 kronor, and the increase in the number of members about 600. The Society's own capital now amounts to upwards 100 000 kronor. In the course of the Society's existence 345 000 kronor has been returned to the pockets of members in the form of dividends on purchases made by them.

At Gävle there exists also a bakery owned by the consumers, namely the *Bakery-Society Alfa,* which boasts 1 377 members. This cooperative bakery started its operations in 1902, and at the termination of the last of financial year 1912 its accounts showed it to have had a turnover of 542 313 kronor, and a capital of its own of about 80 000 kronor. The net balance in 1912 was no less than 49 917 kronor.

Alongside of the cooperative stores properly so speaking, there exist, particularly in the saw-mill districts of the North and in the manufacturing estates of Central Sweden quite a considerable number of *joint-stock trading companies* established by workmen. A good many of these undertakings have very little of a cooperative character about them. The profit is often distributed to a small number of shareholders, and new shareholders are not admitted. These enterprises are in certain places favoured by the employers, for instance, by the grant of free premises, assistance in book-keeping, money loans, and so forth, and it is quite a common thing for the employer himself to be the patron of the society. Although these trading companies have incontestably yielded great economic profit to the shareholders, they have nevertheless, on account of their non-democratic character, failed to exert the same educative and moral influence on the workmen as the modern cooperative societies. It looks as if they had now seen their best days.

An event of the greatest magnitude in the cooperative world was the foundation of the *Kooperativa Förbundet,* already mentioned several times in passing. At the outset the object of this cooperative federation was to gather together the various cooperative societies scattered throughout the country, solely in order to advise and help them in various ways, and to assist in the foundation of new societies. As early as 1900, however, an attempt was made to set on foot a wholesale enterprise, which failed. In 1903 a joint-purchase society for the same purpose was formed at Gävle, and the Union itself in 1904 opened a kind of middleman business in goods, which soon afterwards set about making wholesale purchases for the account of members. In 1907 the joint-purchase union was merged in the Union and converted into their Gävle branch.

The Union has had a remarkably rapid development considering the small resources at its disposal. When it started out on its career, it was joined by 30 organizations with 5 564 members. After some years of comparatively small increase, due to the extremely scanty supply of capital, members began, just after the Union had launched out into wholesale enterprise, simply to stream in. In 1905 the total number of members in the societies that had joined the Union was 18 445; eight years later it had sprung up to 116 449. In July 1913 the Union embraced 543 societies with an aggregate of 128 757 members inclusive of the members in the Mutual Fire Insurance Society "Samarbete" which at the end of 1912 numbered 31 830. The wholesale trading of the Union is now carried on by five of its sections or branches, namely at Stockholm, Gävle, Malmö, Gothenburg, and Norrköping. The turnover, which in 1904 was 276 381 kronor, had sprung up in 1912 to 6 744 347; the increase in that year was as much as 32·56 %. The net balance on the actual commercial business was in 1912 104 525 kronor, and on the publishing and journalistic business 3 495 kronor. The real capital of the Union (shares and funds) is now, with the balance of 1912 478 726·80 kronor, the share capital alone

being 164 081 kronor, out of which 50 755 kronor have been paid in cash by the societies; the remainder has been obtained by transferring to the share account the balance of profit on the trade. Since 1908 the Union has been carrying on savings-bank business among its members. At the close of 1912 the deposits aggregated 1 387 754 kronor distributed over 8 228 pass-books.

Since 1908 the Union owns a margarine factory at Vänersborg, and in the course of 1913 has acquired its own warehouses at Gävle and Malmö.

Hitherto the wholesale enterprise of the Union has been restricted mainly to groceries, such as flour, sugar, herring, cheese, margarine, and so forth, as well as to boots and shoes; however, according as the Union enlarges the sphere of its activities, it is bound in the natural course of things to embrace within its sweep other branches of trade as well, and to carry on production on a scale of greater magnitude.

The Fire Insurance Society already mentioned, which emanated from the Union and is attached to it, was formed in 1908, and had at the termination of 1912 insurances on stores and sundry chattels to the aggregate amount of 57 650 350 kronor. The Union is, moreover, in close touch with The Swedish Practical Life Insurance Society, which after the reorganization it has recently undergone, may look forward to an equally rapid development. Even now it has about 6 000 insurances and a total sum of 950 000 kronor in the funds.

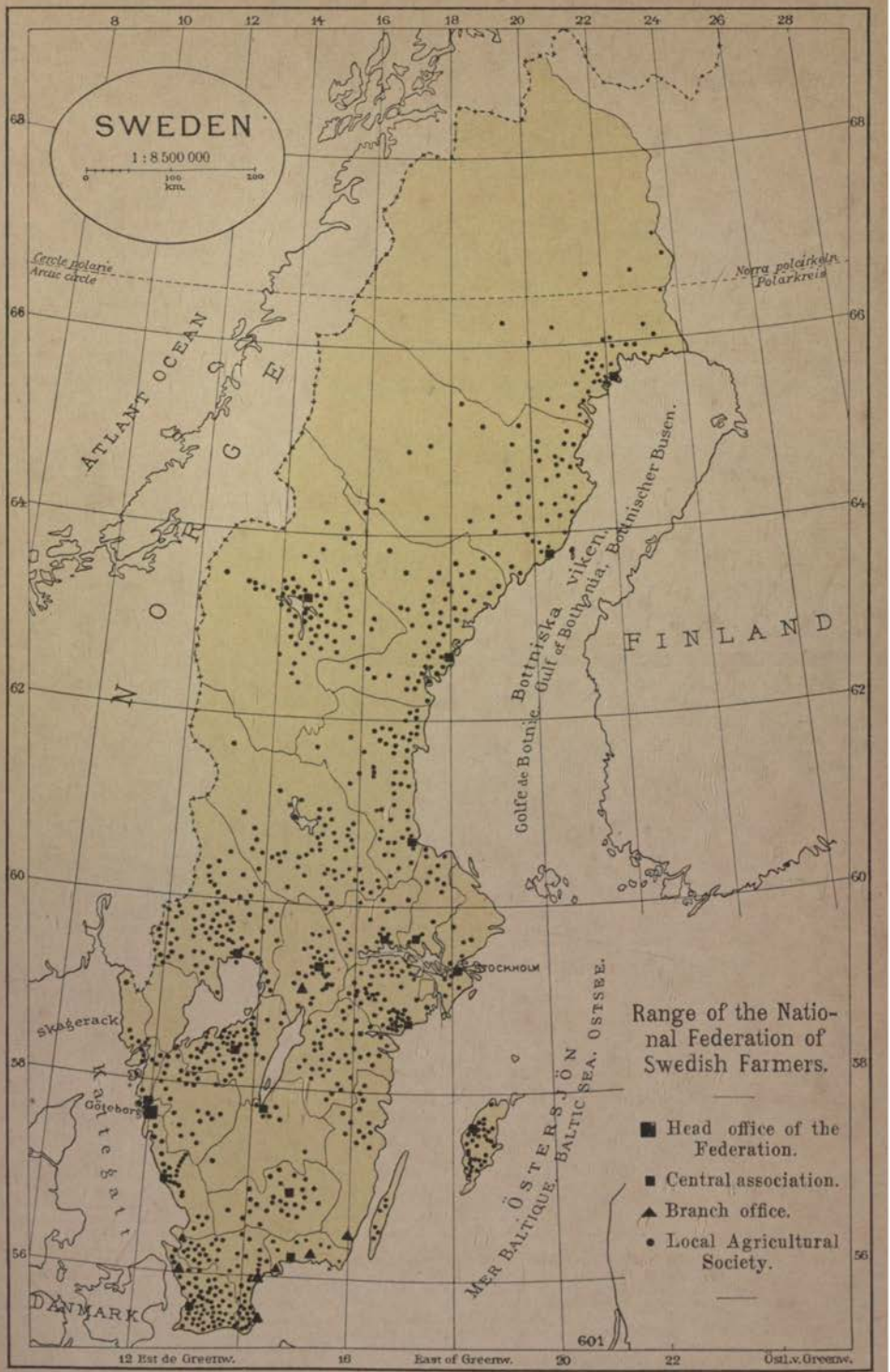
Some of the larger cooperative stores have devoted themselves to the *production of articles of food;* this form of cooperative production should have a future before it alongside with that of the wholesale societies. On the other hand, the *producers' societies* properly so speaking have not met with any great success. The most favourable results have been obtained by the *bakers' societies* (51 in number in 1911), which play quite a considerable role, especially in the southern provinces, as regards supplying the workmen with bread. Besides these bakers' societies, there are a smaller number of butchers', victuallers', milk societies, etc. The number of *producers' societies* properly so speaking was 95 in 1911, among them some 20 in the finer timber trades and some 10 in the building trade. Some of these societies were formed during labour conflicts by the strikers themselves, or through the agency of their trades unions. The number of production societies that have broken up has been comparatively large (about 18 %). Producers' societies pure and simple are not admitted into the Cooperative Union.

A place apart is assumed by the *stevedores' cooperative societies* formed by dock labourers in certain important ports. By their endeavours to wrest for themselves a kind of monopoly of the trade, these societies have won a position of distinction in the labour movement, and in certain places have evoked counter-measures on the part of the employers. On the other hand, the *credit societies* in Sweden are quite insignificant both in numbers and importance.

With regard to the most important group of cooperative societies next after the cooperative stores, namely the *dwellings societies*, the reader is referred to the article on the Housing Problem (see above).

Finally the *building societies* hold a position in the front rank both in point of numbers and of activity. Up to 1911 no less than 1 585 of these societies had been registered, and there doubtless exist a large number that have not been registered at all. The bulk of these building societies have for their object to erect premises, principally in the service of the temperance and labour movement.

The importance of the cooperative enterprises described above does not lie solely in the economic advantages they afford their members. They have an important mission to fulfil also in indirect modes. They serve as regulators of trade prices in general, and they have doubtless in their way contributed to



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stave off many a rice in price that would otherwise have been inevitable. Moreover, by the personal work they exact from the members of their boards, these societies provide a large number of workmen with a practical training in business matters, a training the value of which can scarcely be overestimated.

Agricultural Cooperation. In the field of agriculture the need of cooperation for various purposes is very great, and it is therefore curious that most of the societies of this kind are of comparatively modern standing. Thus the *purchasers' societies,* which are the most important both in their numbers and in their turnover, did not get well under way in Sweden before 1904. The *cooperative dairies,* which play such an important rôle in agriculture, are, on the other hand, of earlier date: the first cooperative dairy was formed in 1880, though it was not till the beginning of the nineties that it was followed by any considerable number of successors. To judge by the number of the societies actually registered, it was not till 1904 that any decided tendency towards cooperation among the farmers made itself felt. In that year the number of registered societies was 146, and in 1906 it reached its culmination, at 210. In 1911 the number of cooperative agricultural societies actually registered was only 43.

The 2 096 cooperative agricultural societies registered from 1898 to 1911 show marked differences in point of organization from the workmen's cooperative societies. Quite a number of the former (992, or 47 %) are constituted with limited personal liability for the members: this mode of constitution has apparently imparted a kind of stability to their business, so that only a very small number of them have come to grief (see above). In some of these societies there is a decided trend towards central organization; it is not invariably the local societies that have been the first in the field. This is the case, for instance, with the purchasers' societies. Private persons in different läns founded central societies which afterwards gave birth to local enterprises. All the central and local societies were in their turn eventually amalgamated into one big *central federation* embracing the whole of Sweden. Other kinds of societies, as for instance, the cooperative dairies (*andelsmejeri*) have no central organization. Cooperative agricultural societies of various kinds are most numerous in the two läns that form the province of Skåne, where they have had specially good opportunities for obtaining good models from Denmark and Germany. In fact, it was not until cooperative agricultural societies had been tried and found successful in the southernmost province of the land, that they began to make their way northwards. In Norrland, however, the interest shown by the farmers in cooperative associations has been remarkably keen.

A very powerful impetus was imparted to agricultural cooperation by the report on various kinds of cooperative associations among farmers published by the Department of Agriculture in 1903. That report gives a reliable and illuminating exposition of the advantages accruing from association in this field, and at the same time points out the best means of attaining the ends in view.

As a rule, these organizations have a purely economic character: one finds in them but little trace of the social ideals that are otherwise a distinguishing feature of cooperative associations among workmen.

As has been mentioned above, the *purchasers' societies* are the most important undertakings, regarded from the economic point of view, within this group.

At quite an early period there existed in Sweden isolated farmers' societies, consisting of the farmers of a village or parish, the object of which was to buy fodders and manures for the benefit of all in common. But, as there was no cohesive force to keep them together, and as they were in most cases obliged to purchase their goods from the merchants, they were unable to accomplish much. In Skaraborg län an attempt was made in 1895 to gather

together the farmers into a purchasers' society, and in Västernorrland län there were formed at about the same time a number of farmers' societies, which, however, were not amalgamated into a federation before 1900. But the real success did not come until 1904, when, partly on Danish and German models, central associations were formed in some of the läns. In the course of four years all the läns of Sweden, with only two exceptions, had established central purchasing organizations, which, with their branches, formed a network ramifying over the whole country, and took in hand the purchase of the most important farmers' necessaries, principally fodders, manures, and seeds. To a minor extent they also undertook the *sale* of corn and other goods on account of their members.

The mode in which these central associations were constituted was rather heterogeneous: two of them were formed as joint stock companies, the rest as cooperative societies with limited, or without personal, liability.

In order to give the reader some notion of the way in which these societies are organized, it is proposed to give a brief account of the organization of the *"Skånska Lantmännens Centralförening"* (*The Central Association of Scanian Farmers*). This Association, which embraces the whole of Skåne in its sweep, is composed (1) of individual farmers cultivating at least 200 hectares of arable ground, and (2) of local societies whose members cultivate collectively that amount of arable ground. The number of individual members in 1912 was 28, and the number of local societies 109, aggregating 3 583 members. The contribution due from entering members is 5 kronor per hectare of arable ground, out of which one krona per hectare is paid cash down on admission, and the remaining four kronor in the form of a note of hand made out to the Association, and payable three months after notice received. Besides the amount of his contribution, each member is liable for a further amount of 5 kronor per hectare, which, however can only be called upon in the event of the society being wound up. The contributions and the extent of the liability are the same for the local societies, which pass on to the central association both the contributions and the notes of hand. The members are bound over in fines to purchase a certain amount of fodders and manures. At the general meetings of the local societies, each member have one vote to each share, at the general meetings of the central association one vote to every 200 shares. In 1912 the turnover was well-nigh $4^1/_2$ million kronor. The net profit was 100 750 kronor, out of which, after writing off an appropriation to the reserve fund, a dividend of 5 per cent was made on the cash amounts of the contributions, and a dividend of $1^1/_2$ % on goods purchased by members in the course of the year.

The aggregate turnover of the central associations amounted in 1910 to over 15 million kronor, the purchases figuring at 13·8 millon kronor, and the sales at 1·2 million kronor.

After the central associations had for some time operated independently of one another, and the need of amalgamation made itself more and more urgently felt, they resolved at a meeting in 1905 to endeavour to set on foot a federation embracing the whole of Sweden. They succeeded. This federation, which was designated the *"Svenska Lantmännens Riksförbund"* (*Swedish Farmers' National Association*), was composed in 1912 of 19 central associations with 3 000 individual members and about 850 local societies aggregating about 40 000 members. These members collectively cultivated no less than 13 % of the total of arable land in Sweden.

In the same year (1912) the turnover for goods passing from the National Association to the central associations was close on 9 million kronor, and the net profit about 46 000 kronor. The entire turnover of the central associations in 1912 was approximately 18 million kronor. The discounts given to members ran into about 179 000 kronor.

The National federation, which has its registered office at Stockholm, with a head office at Gothenburg, has hitherto transacted purely agency trade, except as regards seeds, and the takings have consisted chiefly of the commissions paid by the salesmen. Moreover the federation endeavours, by experimental cultivation, by the publication of a periodical, and in other modes, to promote interest in agriculture.

As for other agricultural associations the *dairy societies* are of great importance. Their aim is to establish cooperative dairies, and through those dairies to make and sell dairy products. In some places (for instance, in Jämtland), they also regard it as part of their work to purchase strong food (*kraftfoder*), and so on, for the account of members. Dairy societies are now met with in most of the läns of Sweden, but are still most numerous in Skåne and Halland. The first known dairy constituted on a cooperative basis founded in Scandinavia was the *Vilan Dairy Company* formed at the People's High School at Vilan (see p. II, 126). It was not until the nineties, when encouraging experience of the cooperative principle had been coming in from Denmark, that the movement began to get full way ahead. Whereas in 1890 there were only 73 cooperative dairies in existence, their numbers in 1910 had gone up to 542, 155 of which were found in Skåne and Halland. This increase is so much the more remarkable, as the total number of dairies during this period has been sinking.

Whereas, as a rule, it is easy enough for any farmer to get into one of these societies, in some places withdrawal is attended by a certain amount of difficulty. The amount of the contributions paid on admission varies, and is often calculated on the number of cows (from 1 to 10 kronor per cow) owned by the farmer. A large number of societies are constituted without personal liability, while others stipulate a certain amount of liability, for instance, from 10 to 25 kronor per cow or per are of ground owned. The number of votes, as a rule, depends on the number of the shares paid. The administration is in the hands of a board and a dairy superintendent. The profit is, as a rule, distributed in such wise, that, after amortization of debts and appropriation to the funds has taken place, a dividend of 5 % is made according to the amount of milk supplied by members. The cooperative dairies are largest in Malmöhus län, where the average quantity of milk per day may amount to as much as 10 000 kilograms, and smallest in Norrbottens län, where the figure sometimes drops to six or seven hundred kilograms. The working expenses vary between 0·5 and 1·3 öre per kilogram.

The *agricultural machinery societies* have for their object to provide facilities for small farmers to employ expensive agricultural machinery — in the south of Sweden steam thrashing-engines, in the north of Sweden often steam sawmills and steam corn mills. The number of registered societies amounts to about a hundred, besides which there are a large number that have not been registered. In this group one may include the *moss-litter societies*, whose mission it is to excavate and refine peat.

For the sale of products of the poultry trade there are some 70 *egg selling societies*, most of them in Skåne. The *butchery societies* have not been a great success; on the other hand the *breeding societies* whose object it is to supply bulls and stallions for breeding purposes are numerous and important, though only a few of them have been legally registered. A promising group is formed by *fruit-growers' societies* especially in the läns of Malmöhus and Gottland; they have also a central association. A particularly important group, considered from the economic point of view, is constituted by the 18 *beet-growers' societies*, with their central organization. Besides those that have been mentioned there are many other cooperative agricultural societies with divers objects.

Legislation for the Protection of Workers. (Factory Laws etc.)

It is proposed to give below firstly an *historical account* of the development in Sweden of legislation providing for the protection of workers, secondly an account of the present legislation on the subject, particularly of the *Act of the 29th June 1912 (Lagen om Arbetarskydd den 29 Juni 1912)*, which is the general law on the subject.

I. Historical account.

1. Previous to the eighties. In a number of statutes from past times one can point to regulations that to a certain extent parallel certain points in the present legislation for the protection of workers. Thus the Guild Statute *(Skråordning)* of 1621 already prescribed a minimum age for apprentices, namely 14 years, and a century later, in the Guild Statute of 1720, one finds the same regulations, only more clearly formulated. The Hall Statutes *(Hallordning)* of 1739 and 1770 prescribed for the "children" *(lärobarnen)* employed in the factory work of those days a minimum age of "from 10 to 12 years", and enjoined upon the manufacturer to "hold the children in the fear of God and a Christian manner of life, and to cause them to receive meet and fitting instruction in reading and knowledge of the Scriptures".

The *Factory and Workshop Statute* of 1846 contained regulations providing for a minimum age of 12 years, and to these were annexed by a Proclamation of 1852 regulations for the prohibition of night labour: work between 9 p. m. and 5 a. m. being prohibited for workers under the age of 18, on penalty of a fine. However, this entire body of legislation no doubt existed solely on paper. The introducer of a Bill in the Riksdag during the session from 1856—58 was doubtless right in pointing out that "something was wanting, not on account of the indefiniteness of the regulations, but on account of the inadequateness of the control". Here he had laid his finger not merely on the really weak spot in the legislation, but also on a circumstance which continued to be the great defect of Swedish legislation on this head during the greater part of the century.

In spite of sundry proposals previously brought forward in the Riksdag for a revision of the regulations providing for the protection of children, the "Liberty of Trade Ordinance" *(Näringsfrihetsförordning)* of 1864 did not carry the legislation on this subject much further. It was not till 1870 that a real reform in this line falls to be recorded. On the 18th February 1870 was issued an Ordinance providing particularly for protection against the occurence of necrosis among the workers employed in the manufacture of lucifer matches. The Ordinance prescribed the adoption of special measures of precaution as regards the premises in which the work was carried on, and the working processes, and raised the minimum age at

which children were eligible for employment in this kind of work, to 15 years. This Ordinance of 1870 is as a matter of fact the first special trade statute in Sweden.

At the sessions of the Riksdag in 1870 new proposals were introduced for an amendment of reforms of the legislation for the protection of children, and in 1875 the Riksdag finally called for new legislation on the subject. The task of drafting proposals was entrusted to a Committee, the first Committee on the Protection of Workers in Sweden.

The proposals of the Committee, which were brought forward in its report of 1877, aimed in the first place at placing under the supervision of special Government inspectors all manufacturing enterprises or crafts in which workers under 18 were employed. The minimum age was fixed at 12, the hours of labour in factories and mines for children under 14 at 6 hours and for "young persons", between the ages of 14 and 18, at 11 hours. Night labour was forbidden for all children both in factories and the crafts. For labour under ground in mines or quarries no children under the age of 14 might be employed, nor yet girls between the ages of 14 and 18. Children employed in factory work should attend an elementary school for at least 2 hours a day, or receive other equivalent instruction. Finally, it was enacted that no child might be put to work before having acquired the minimum knowledge required by the elementary schools, nor be employed where, owing to physical debility or infirmity, the child might be deemed likely to suffer injury from the work.

2. The eighties and nineties. The immediate consequence of the proposals of the 1877 Committee was the issue on the *18 november 1881* of the *Statute providing for the employment of children in factory work, handicrafts, or other trades.*

This Statute irremediably invalidated one of the cardinal principles in the Committee's proposals, by commuting its regulations providing for supervision by Government inspectors for regulations providing for control through the medium of boards of health and communal authorities. On the other hand, the hours for labour were reduced for "young persons" from 11 hours to 10.

The new Statute, which was to have entered into force on the 1st January 1882, aroused vehement opposition, above all on the part of the industrial interest. The result was that a postponement of its enforcement was conceded as regards industry as a whole up to the 1st June 1882, and as regards the iron industry in particular actually to the 1st November 1883. The saw-mill and timber yard trades were entirely exempted from its provisions. As regards the iron industry, the employment of boys from 14 to 18 years of age was conceded during the 12 hours out of the 24, and also in night labour, provided the shifts were organized in accordance with a certain prescribed system.

In the eigthies the manufacturers and artisans made representations to the Swedish Government for the amendment of certain regulations in the Statute of 1881; also in the Riksdag proposals were brought forward to that effect. The Government in fact instituted through the medium of the län governments an investigation into the effects of the Statute. Partly in consequence of the results yielded by these investigations and representations, partly owing to the stimulus that the International Con-

ference at Berlin of 1890 gave to reforms in this line, there was appointed *in 1891 a new Committee for the Protection of Workers.* This Committee was entrusted with the task of inquiring into the effects of the Statute of 1881, and of considering how far the principles adopted at the Berlin Conference might be applied to Sweden.

The Committee brought forward its proposals in 1892. But it was not till eight years later that the Government introduced into the Riksdag a Bill based on its proposals. The Bill with certain minor amendments was accepted by the Riksdag, and on the *17th October 1900* was passed the *Act relating to the Employment of Children and Women in Industrial Labour,*

The Act applied, broadly speaking, to industrial enterprises driven on the scale of a factory. It thus superseded the Statute of 1881, except with regard to the employment of children in handicrafts or other minor trades. The minimum age prescribed by the Act, as also the prohibition against night labour, corresponded in essentials to the regulations of the earlier Statute. The hours of labour were extended to 10 hours likewise for children of 13 years. Subject to the condition of a certain division into shifts, the hours of labour for boys over 14 to be in mines, saw-mills, and in industrial enterprises in which fire was continually kept up, were permitted to extend to 12 hours, and to embrace any period of time in the 24 hours. The effect of these regulations was to sanction the extensive exemptions from the Statute of 1881 which the Government had found itself impelled to grant. The Act provided for an annual medical inspection of children employed in labour, which was a new feature, but made abatements in the required standard of education. As for female workers, the sole prohibitions made were against their being caused to work during the four weeks after child-birth, and against their being employed under ground in mines and quarries. Finally, it was prescribed — and this would appear to be, practically speaking, the most important improvement made by the Act — that supervision of labour should be entrusted to the Government inspectors of trades.

Official inspection of trades (factory inspection) had then already existed for some ten years, although the observance of the regulations made for the employment of children had not been subject to its control. Inspection of trades was provided for by the *Protection of Workers Act of the 10th May 1889.*

Previous to the issue of this law there had not existed in Sweden any general and effective legislation with the object of preventing accidents incurred in work. The provision of the "Liberty of Trade Ordinance" *(Näringsfrihetsförordning)* that employers of labour should " in the treatment and employment of their workers pay due attention to their health and capacity for work", must be regarded practically as well-meant advice. About as effective must have been the prescription contained in the Statute of Public Health that factories and other industries should not be constructed, equipped, or driven in such a way that they would be prejudicial to the health of the workers. In 1884 S. A. Hedin introduced a private Bill in the Riksdag advocating the drafting of a law providing for precautions against accidents in work in certain trades, etc. The Bill was passed, and the Government appointed a Committee, which was termed the *Workmens' Insu-*

rance Committee. The latter in 1888 issued its reports, containing *inter alia* proposals for a law providing for the protection of the lives and the health of workmen employed in certain trades. The Comittees emphasised very strongly the necessity of a special Government inspection, in order to ensure that the law was duly observed, and, in fact, incorporated amongst its proposals regulations with that object. In the Bill on the subject which was drafted on the basis of the Committee's proposals and was brought before the Riksdag in 1889, the powers of the inspectors were somewhat curtailed. The Riksdag further accentuated this cautiousness, and laid particular stress on the obligation of inspectors of trades to observe in the course of their duties "how the purpose of the law may be attained without unreasonable expense, with the least possible inconvenience to the employer".

The sphere which came within the scope of the Act of the 10 May 1889 was mainly industry pursued on a manufacturing scale, to which, by the Act of the 13th December 1895, was added industrial business transacted by State or commune. The Act contained firstly a general obligation for employers to adopt "all the arrangements which, with regard to working premises, machinery, and tools, or otherwise with regard to the character of the work, may be necessary to protect the lives and the health of the workers", and secondly a number of detailed regulations with regard to such arrangements. The number of inspectors of trades was fixed, to begin with, at 3. In 1895 they were increased to 5, besides an inspector for the manufacture of explosives. When the Act relating to the employment of children in trades had also been placed under the supervision of the inspectors of trades, the number of inspectors was fixed at 8 (besides the inspector of explosives).

The special Protection of Workers Act which Sweden possessed as early as 1870, and which had reference to a particular disease occuring among workers employed in the manufacture of lucifer matches, was superseded on the *9 December 1896* by the *Act for the Prevention of Necrosis among Workers in Match Factories,* which is the present law on the subject. (See below.)

3. 1900 and foll. At the beginning of the nineties the chief laws providing for the protection of workers, as the above account will have shown, were the Act of 1900 relating to the Employment of Women and Children in certain Trades, and the Protection of Workers Act of 1889. As regards handicraft, the Children's Employment Act of 1881 was still in force, although owing to inadequate supervision, it seems to have been but little effective. The same appears to have been the case with the two Acts issued in the nineties *for the Protection of Children against Employment at Night and on Sundays and Holidays in certain kinds of Sales* (Ordinances of 10th July 1891 and the 4th December 1896), and against *Employment at Public Exhibitions* (Ordinance of the 10th December 1897), amended on the 13th November 1908). These last-named ordinances are still in force (see page 713).

Certain representations in the reports of trade inspectors on the effects and application of protective legislation, led to several proposals being brought forward in the Riksdag for the amendment or supplementation of the laws on the subject. In response to these proposals, the Riksdag resolved in 1903 to demand the amendment of the Protection of Workers and the Children's Employment Acts, and other statutes connected with them. The execution of this duty was delegated by the Government in 1905 to a Committee (generally known as the Protection of Workers Committee), the third Committee for the Protection of Workers in the history of Swedish social legislation.

The Committee brought forward at the end of 1909 its Report, containing proposals for laws relating to the protection of workers, domestic industries, communal inspectors, and the organization of official administration. The Committee's proposals for a law for the protection of workers, the chief result of its work, were intended to supersede the Acts of 1881 and 1900 relating to the Employment of Women and Children and the Protection of Workers Act of 1889.

The main proposal of the Committee was made the basis of a Government Bill on the subject in the Riksdag in 1912. The Riksdag having passed the Bill with certain modifications in detail, it was issued as the *Protection of Workers Act* of the *29th June 1912*. For the substance of this Act see below.

The chief provisions of the proposal drafted by the Committee for a law relating to work in *Home Industries*, were those rendering it obligatory (1) for an employer to keep a special register of home workers in his employ, (2) to furnish the workpeople with wage books, containing statements as to the nature of the work, the wages of labour, and so on, and (3) for a worker to report any case of infectious disease occurring on his or her person. These proposals encountered violent opposition from various quarters, and were ultimately shelved. In 1912, however, the Government commissioned the Kommerskollegium (Board of Trade) to set on foot a thorough inquiry into the occurrence and extent of home industries in Sweden, and into the economic and social conditions under which this kind of work was carried on.

Besides the new Act of 1912, there are two other important Swedish laws in the sphere of the protection of workers, namely the *Women's Night Work Act* and the *Early Closing Act*.

The former of these laws is the first and sole application in Sweden of protective legislation proceeding from international agreement. At the initiative of the International Association for the Legal Protection of Workers,[1] after various preliminaires, a convention was concluded at Bern in 1906 between the majority of European States and among them Sweden, "for the Prohibition of Night Labour for Women employed in Industrial Occupations". In 1907 the Swedish Government commissioned the Protection of Workers Committee to draw up proposals on the subject, on the

[1] This society has had a Swedish section since 1909. The headquarters of its committee are at Stockholm.

basis of the terms of the Convention. A Bill was then drafted in close conformity with the Committee's proposals, and was brought before the Riksdag in 1908. The Bill, which met with vehement opposition from female quarters, was thrown out by the Riksdag. However, in the following year bills were introduced into both Chambers for the acceptance of the proposals of 1908. Although the Bill in this form still gave rise to opposition from the feminine element and from other quarters, it was nevertheless passed by the Riksdag, and was issued in the *20th November 1909 as the Act Prohibiting the Employment of Women at Night in certain Industrial Enterprises.*

The problem as to the legal regulation of the hours of labour in trade, was one that solicited the keen interest of the body of traders in certain towns as early as about 1900. Proposals for an inquiry into the subject were not brought before the Riksdag till 1904. These proposals came up before it again in the two years following, and led in 1906 to representations being made to the Government to consider whether, and on what conditions, communes might be entitled to determine a certain period during which shops situated within the municipal district should be kept closed. The "Central Association for Social Work" set on foot in 1907 an investigation into the matter, with special reference to the retail trade of Stockholm. This investigation, which embraced 2 691 shops with 5 198 shop assistants, showed *inter alia* that only 6 % of the shops coming under the investigation had a working day of less than 12 hours, 33 % being kept open for 12 hours, 25 % for 13, 16 % for 14, 13 % for 15, and 7 % for more than 15 hours out of the 24. A Bill on the subject, partly based on this inquiry was brought before the Riksdag in 1909, and its proposals for a *"Law prohibiting the Carrying on of Trade on Weekdays beyond a certain Period of Time"*, were accepted by the Riksdag in essentials. The corresponding Act was afterwards issued on the *5th June 1909.* By a special resolution the Riksdag in 1912 amended the Act so as also to apply to Sundays and holidays.

II. Legislation now in force.

1. Protection of Workers Act (29th June 1912). The most characteristic feature of this Act is the range of its application. Broadly speaking, it may be said aim at preventing or rendering it possible to redress any kinds of evils coming within the scope of protective legislation, no matter in what species of work the evil may occur, or what class of workers it may afflict. The Act is thus essentially a general and fundamental protective law, the regulations of which in order to be effectively applied in different spheres, require to be further developed in various respects by special laws to eke out and suppiement it.

Scope of the Act. The Act applies to any kind of business, whether industrial or not, in which workpeople are employed to work for the account of an employer, as well as to house building, road and works construction, water

drainage, or other suchlike special enterprises in which workers are employed in the said manner. From the provisions of the Act are, however, exempted (a) work performed in the worker's home, or otherwise under such conditions that it cannot be deemed to be incumbent on the employer to supervise the arrangement of the work, (b) work performed by a member of the employer's family, and (c), work performed by sailors and which comes under the head of service on board ship. Moreover with regard to work in agriculture, the important limitation is made that the Act shall apply only in so far as it aims at preventing accidents in the use of machinery or certain other dangerous implements.

The above provision as to the range of application of the Act is supplemented by an enactment as to the legal signification of the terms "worker" (arbetare) and "employer" (arbetsgivare), from which it is evident that "workers" under the Act is not to be construed as signifying merely manual labourers, and those of the same social position, but anyone who performs work for the account of another, and who cannot be deemed to be independent in relation to the latter.

Protection against risk of injury arising from work. This section of the Act contains firstly a general, fundamental provision rendering it incumbent on employers to observe all precautions that, with regard to working premises, machinery, and tools, and otherwise, may be deemed to be necessary to protect the workpeople in their employ against accidents and injury to health during work. This provision is then developed further in two series of protective regulations, one for the prevention of accidents incurred during work, the other for the prevention of injury to health in consequence of the work. As the protective regulations referred to are by no means exhaustive, Government is finally empowered to issue the special regulations that may be found necessary with regard to a particular kind of employment or to the use of a certain kind of machine, tool, or working premise.

Employment of Minors. "Minors" is to be construed under the Act to mean persons under 18 years of age. In order to be eligible for employment in labour a minor must as a general rule (1) have passed through the course of instruction prescribed for the elementary schools, (2) have attained a certain age, which in general is 12, but with regard to work in large industry [1] is fixed at 13 for boys, and 14 for girls. By way of a general, fundamental principle for the employment of minors, it is enacted that employers shall not employ a minor in such a manner that the employment of the minor may be deemed to be attended by danger of accident or of overwork, or other detrimental effect on the minor's health or physical development, or so as to be injurious to the minor's morals. Without being limited to any particular kind of work, it is further enacted that minors shall be afforded sufficient leasure to enable them to participate in a course of religious instruction, or a course in a trade school, or an extension class entirely or partially defrayed by the State.

With regard to the employment of minors in special kinds of occupation, certain restrictions are made. Thus it is prohibited to employ minors under 15 years of age for work under ground in quarries or mines. For minors employed in the carrying of goods, messages or errands, or in trade, an uninterrupted free time at night of at least 11 hours is prescribed. As to minors employed in industry, the daily hours of labour shall not exceed 6 hours for minors under 13, 8 hours for minors of 13, and 8 hours for minors that have attained the age of 14. If a minor that has not yet attained the age

[1] By "large industry" is understood to mean industrial work conducted on such a scale that at least 10 workers, or a driving power of at least 5 efficient horse power, or else at least five workers as well as a driving power of at least 3 efficient horse power, are employed regularly at one place to carry on the work.

of 15 is taking part in school instruction, the hours of labour shall further be limited in such wise, that the total time of instruction and work shall not exceed the limits just named. The work shall be interrupted by suitable and regular intervals. Finally, in industry minors shall not be employed in night work, that is work between the hours of 7 p. m. and 6 a. m. An exception from this rule is, however, allowed in the case of male minors over 16 years of age employed in work limited to at most 8 hours out of the twenty-four, and which does not fall oftener than every third week between the hours of 11 p. m. and 5 a. m.

Minors shall not be employed for work in large industry, unless the employer is provided with a "certificate book" (intygsbok) made out for the minor which, besides giving the name, age, and school standing of the minor, shall contain a doctor's certificate showing that the minor does not show signs of infirmity, debility, or bad physical development, or, if that should be the case, that the minor cannot be deemed to suffer injury from the work in which he or she is employed.

The regulations of the Act with regard to the employment of minors are concluded by authorization for Government (1) with regard to such work in large industry which for technical reasons must be carried on day and night, or be pushed on at certain times, to grant exemptions from the above named prohibition against night work and (2) to prescribe conditions or prohibitions with regard to the employment of minors in those kind of occupations that may be deemed to be attended by particular danger of accidents, or to be dangerous to health or morals. On the ground of the last named authorization, a Royal decree of the 31 December 1912 has been issued prohibiting the employment of children in certain dangerous occupations.

Employment of Women. Women, no matter what their age, shall not be employed in work under ground in quarries or mines. In large industry a female worker shall not be employed during the first six weeks after childbirth, unless she can produce a doctor's certificate to show that she can begin work earlier without injury either to herself or the child. A female worker who asks for leave of absence during the fortnight before childbirth shall not be refused it. A woman who suckles her child herself shall not be refused the required leave of absence. Moreover, with regard to the employment of female workers, the King is empowered to prescribe conditions or prohibitions with respect to employments that are found to be attended by special danger of accident, or of injury to health or morals.

Supervision etc. The observance of the provisions of the law is, subject to the supervision of a supreme authority for the inspection of trades (Social Board: Bureau for the Protection of Workers), by 10 inspectors of trades (one of whom is a lady inspector), with 11 assistants, 6 inspectors of mines, besides mining engineers, 18 sub-inspectors, and finally communal supervisory authorities: as a rule, the boards of health and the communal boards. The Government is entitled, irrespective of the manner in which supervision is distributed under the law, to commit the supervision of a certain kind of work to special inspectors, and, where this may be necessary for a more efficient general organization of the supervision, to prescribe modifications in the limits of the powers of the different supervisory authorities. Inspectors of trades (factories) and of mines are under obligation, without remuneration, to examine into and pronounce with despatch on proposals submitted to them for the building, rebuilding, or enlargement of working premises, or for a new or modified arrangement of the work. The proper supervisory authorities shall have access at any time to the premises. At large factories there shall be kept a memorandumbook in which the inspector shall record his advice and instructions, or his intention to impart advice or instructions

at a future time. In order, under a suitable form, to secure the cooperation of the workers themselves in the observance of the law, certain regulations are made with respect to deputies appointed by the workers, for the purpose of bringing forward desiderata respecting safe and sanitary conditions of labour. Minors employed in large industry shall be subjected to medical inspection at least once a year, in order to ascertain whether the minor's occupation is detrimental to his or her health or physical development. The Government is entitled to extend the regulations of this section also to spheres besides large industry. Further, the Government is empowered *inter alia* to issue detailed regulations with respect to medical examinations and inspections of minors prescribed by the law. A Royal Decree to this effect was promulgated on the 31 December 1912.

The Execution of the Law. The competent supervisory authorities shall endeavour to carry into effect the regulations made to prevent injury arising from work, primarily by means of advice and instructions. If measures of this kind are not found sufficiently effective, the supervisory authorities shall apply to the Governor of the län to obtain prohibition for the employer to carry on the work, or make use of a certain premise, machine, tool, or method of work, after a certain appointed time, without the adoption of certain stated measures of precaution. Transgression of such prohibition shall be punishable with fines of from 10 to 500 kronor or, under very aggravating circumstances, with imprisonment for a term not exceeding 6 months. Offences against the regulations of the law respecting the employment of minors or women in work as a rule carry with them direct liability to punishment, that is to fines of from 10 to 500 kronor, or in certain cases where the regulations are essentially of a formal nature, fines of from 5 to 200 kronor.

2. Special laws for the prevention of danger in work. (a) *Ordinance relating to measures of precaution for the prevention of necrosis among workers in match factories* (9 December 1896). This Ordinance, which is directed against a special disease, prescribes that the manufacture of matches into the igniting-composition of which ordinary (white or yellow) phosphorus enters as a constituent part, shall be carried on only in a factory specially erected for the purpose, and driven or managed by an expert. The factory shall contain separate rooms, secluded from the other working premises, for the preparation of the igniting-composition and the dipping of the matches therein, for the drying of the matches and the packing thereof. In these rooms powerful ventilation shall be produced by mechanical ventilators, and there shall be appliances to prevent phoshorous vapours being inhaled or spread about the premises. There shall be separate rooms for keeping the workers' clothes and victuals, and in these rooms facilities shall also be afforded for the workers to take their meals. A separate washing room shall also be provided. Phosphorus should be kept in special frost-free rooms in houses that shall not contain residential premises.

The manufacture of matches shall not be started until the factory has been visited by the inspector, and workers shall not be engaged for the above-named work until they have been examined by a doctor. In the preparation of the igniting-composition and the dipping of the matches, shall not be employed workers under 18 years of age. Nor shall workers under 14 years of age be employed in the drying of the matches or their packing in bundles or boxes. A worker shall not be employed in the preparation of igniting-composition, or in the dipping of matches, for a longer period than one month at a time, and shall resume his employment only after a month has expired without any injurious effects of the work having come to light. The manufacturer shall find his workpeople in special working garments, footgear and soap. A medical examination shall be made, at the expense of the factory owner, of all his workpeople at least every three months, by a medical officer appointed by the Län Govern-

ment. The Län Government is said to "hold its hand" over the observance of the law, and can prohibit the continuance of the work, if the nonobservance of the regulations is fraught with particular danger.

(b) Among *other special statutes for the prevention of danger arising from certain trades*, now in force, should be noted the following:

Byggnadsstadgan för rikets städer (The Towns' Building Statute), of the 8 May 1874, §§ 33 and 42.

Förordningen angående eldfarliga oljor m. m. (The Inflammable Oils Ordinance) of the 26th November 1875, §§ 5, 6 and 19.

Gruvestadgan (The Mines Statute) of the 16th May 1884 §§ 50—53.

Stadgan om elektriska anläggningar för belysning eller arbetsöverföring (Statute relating to Electric Installations for Illumination or Transmission of Power), of the 31 December 1902, §§ 7, 15, 17, 20, 30, 32, 35, 44 etc.

Kommerskollegii kungörelse angående säkerhetsföreskrifter vid utförande av elektriska anläggningar för belysning eller arbetsöverföring (Board of Trade Order relating to Measures of Precaution to be adopted in the Construction of Electric Installations for Illumination or Transmission of Power), of the 1 March 1904, §§ 17, 21, 22, 24, 32, 39, 42—44, 46, 51, etc. and

Giftstadgan (the Poisons Statute), of the 7th December 1906, §§ 6, 16, 19 and 22.

3. Special laws for the protection of children. *Förordningen angående förbud för barn att idka viss försäljning* (Statute Prohibiting Children carrying on certain Sales), of the 4 December 1896, and *Förordningen om förbud mot barns användande vid offentlig förevisning* (Statute Prohibiting the Employment of Children in Public Exhibitions), of the 10 December 1897, apply both to boys under 14 and girls under 15.

The Statute of the 4 December 1896, which refers to the distribution or offering for sale of goods in streets, or public squares, or public premises, in towns, is of a purely optional character; its prohibitive regulations do not come into force until the Town Council or the Governor of the Län have taken the initiative, and the latter have resolved to that effect. Such prohibition shall not be extended beyond the time from 3 p. m. to 8 a. m., except with regard to Sundays and public holidays, when it may extend to the whole 24 hours.

4. The Women's Night Work Act, of the 20 November 1909. The scope of the Act appears to coincide pretty closely with the sphere assigned in the Protection of Workers Act to "large industry" (see note above). However, it should be noted that the said term in the latter law signifies work for which "at least 10 workers are regularly employed", and so on, whereas the Night Work Act applies to work "in which during any period of the year next previous or the current year more than 10 workers have been employed", and so forth. For women employed in such enterprises, the Act prescribes an uninterrupted free time of at least 11 hours every day (of 24 hours), which free time shall include the period between 10 p. m. and 5 a. m.. In enterprises in which seasonal work occurs, and, in exceptional cases, in other enterprises where the work has for various reasons to be carried on at a pressure, the uninterrupted free time may, after due announcement, be restricted to 10 hours out of the 24 for a period of at most 60 days. With regard to enterprises concerned in the preparation of goods that are liable to rapid deterioration, the Government is empowered to issue special regulations. Thus, under the terms of this enactment, special licenses have been granted by Royal Decree, whereby even during the period from 10 p. m. to 5 a. m., women may be employed in such work as is necessary in order that the raw goods arriving at the factories shall be preserved from rapid deterioration; namely (1) in factories for the manufacture of preserved fruit and vegetables (Royal Decree of the 9th June 1911) during

the months from June to September and (2) in factories for the manufacture of preserved sprats (Royal Decree of the 11 August 1911) during the period from the 15th August to the 15th November. However, these licenses have been made subject to various conditions, for instance, that there shall be intervals for rest of a certain length, that the maximum aggregate working time shall be 12 hours out of the 24, and that work between 10 p. m. and 5 a. m. in the case of the same female worker shall not recur oftener than every other week. The observance of the Act is under the supervision of the Board of Inspectors of Trades.

5. The Early Closing Act (Butiksstängningslagen) of the 5 June 1909. As in the case of the above-named Act for the Protection of Children, the application of the Early Closing Act is optional, being subject to a resolution passed by the commune and sanctioned by the Governor of the Län. The Act applies to cities, country towns, and municipal communities. The resolution having been passed, a certain time shall be prescribed for the opening and closing of shops, which time shall not be fixed earlier than 7 a. m., or later than 8 p. m. However, for shops in which trade is carried on only in foodstuffs, the opening hour may be fixed at 6 a. m., and for the same class of shops or for shops mainly engaged in the sale of tobacco goods and newspapers, the closing hour may be fixed at 9 p. m. On the eve of Sundays and public holidays and the two weeks next preceding Christmas Eve the closing hour may be protracted to 9 p. m. for all kinds of shops, and for provision dealers and tobacconists etc., to 10 p. m. Where the provisions of the Act are brought into force, prohibition may also at the same time be made against shops being kept open on Sundays and public holidays during the period which, under the terms of the penal law (Chapter 7, § 3), is not to be deemed a "Sabbath period". Prohibitions under the terms of the Act shall apply to all shops within the community, and no other classification of shops shall be made than that prescribed in the act.

Social Insurance.

The history of Swedish social insurance may be said to date from the so-called *Workmen's Insurance Committee* appointed in 1884 by a Bill introduced into the Riksdag by *S. A. Hedin*. After thorough preliminary investigations, the said Committee in 1888—89 brought forward, besides a proposal for a law providing for measures to protect the lives and health of workers, (see the Section: Legislation for the Protection of Workers) also a scheme for legislation regarding the main branches of social insurance, namely illness, accident, and old age insurance. Although the scheme broached by the Committee, in no case, except as regards illness insurance, took shape in legislation, nevertheless its labours have been of epoch-making importance for social insurance at a period when the aims of legislative reformers in this line were still very imperfectly understood in most quarters in Sweden.

In the following pages accounts, comprising a historical survey and a review of the present legislation, will be rendered of the various branches of Swedish social insurance, to which, in connection with the treatment of the sickness benefit societies, an account of pension funds etc., has been appended.

Sickness Benefit Societies. Sickness and burial benefit societies in Sweden, as in other countries, have a very long history. Their origin can thus be traced to the guilds and fraternities of the Middle Ages, which counted among their aims the extension of relief to their members in the event of sickness or death. It is true that the so-named "Liberty of Trade Ordinance" of 1864 made away with all compulsory regulations of this nature. But nevertheless, the efforts at self-aid that had subsisted for centuries, and in the course of time had gradually penetrated to circles beyond the pale of the Guild system, still survived, and in the year 1870 attained a very promising development. Important factors in forwarding this development were the so-called "hundramannaföreningar" ("hundred men societies"), which sprang up over Sweden, and the Friendly Societies, at that time flourishing luxuriantly, which included in their working program the formation of sickness and other benefit funds for its members. Of still greater importance, however, have been the manifold social movements that have arisen in the last few decenniums particularly among the working classes and equivalent ranges of society: such as, for example, trade unionism, the temperance movement, and modern religious movements which, as a rule, have likewise addressed themselves to the establishment of sick and funeral funds. The temperance movement in particular has been of the most vital importance in this regard, and several of the biggest sick funds in Sweden have been formed as branches of Temperance Societies or Orders. The industrial revolution has also tended to foster the development of the sick-benefit system, by providing facilities for the foundation of sickness benefit societies among the large masses of workers congregated in large industrial establishments.

The above-named Committee presented in 1889 a scheme for sick-benefit legislation, providing for State regulation of the management of sickness benefit societies, as well as for State subsidies. Out of these proposals emerged, though in a very mutilated condition, the sickness benefit societies act of 1891.

The *Sickness Benefit Societies Act of the 30th October 1891* did not provide for compulsory registration. But sickness benefit societies whose statutes were framed in accordance with the regulations of the Act, were eligible for registration, provided that the society had at least 25 members, that its committee was composed of exclusively Swedish subjects, and that it devoted its monies solely to sickness and funeral benefits, apart from the necessary expenses of administration. A sickness benefit society acquired on registration a recognized legal status and a right to an annual contribution from the State, the so-termed "förvaltningsbidraget" (contribution in aid of administration). After the said State contribution had been raised on two occasions, it was fixed from the year 1900 at 1·50 kr. for each member up to 100, at 1 kr. for each member beyond 100 and up to 300, at 0·50 kr. for a number of members ranging from 301 to 2 600, and 0·25 kr. for each member beyond that number.

To begin with, the effects of the Act of 1891 were not very conspicious, and the number of sick benefit societies registered, and the number of their members, grew with comparative tardiness. The year 1897, however, brought with it a remark-

able turn of the tide, and since that time the sick benefit movement has been growing with steady rapidity. Thus in 1910, the year in which the new Sickness Benefit Societies Act was promulgated and the last for which there are complete statistics available, the number of registered societies was 2 426, with an aggregate number of members of 632 005, out of which 156 496, that is 24·8 %, were women, and 475 509, or 75·2 %, were men.[1] The takings of the sick societies, when totalled up, figured out at 8·2 million kronor, out of which 6·4 million kronor consisted of members' fees. The expenditure of the societies totalled 7·3 million kronor, out of which an identical figure of 6·4 million kronor represented the expenses for sick and funeral benefits, doctors' fees, physic and the like. The balance in hand for all the societies amounted in 1910 to 12·7 million kronor, or 20 kronor per member. The number of cases of illness per 100 members figured at 27·0 (men 28·7, women 21·9), the number of days of illness to each 100 members was 600·5 (men 619·7, women 542·2), and per case of illness 20·3 (men 19·5, women 23·4). The amount of the cash benefits worked out, on an average per case of illness, at 30·29 kronor, and per day of illness at 1·36 kronor.

In spite of the gratifying development that the Swedish sick-benefit system has passed through, it was evident that this movement suffered from many grave defects, due in a great measure to unsatisfactory legislation. One of the most salient of those defects was the great lack of uniformity that prevailed within this movement, and the way in which it was broken up into a number of small organizations with very feeble economic power.

The question as to an amendment of the Act of 1891 had, it is true, repeatedly challenged the attention of the State authorities; but the initiative in the matter of the new Sickness Benefit Societies Act passed in 1910, may be said to have proceeded from the sickness societies themselves. This being so, it is obvious that this law should pay the most considerate attention to the sick funds already in existence. *The Sickness Benefit Societies Act of the 4th July 1910,* accordingly, leaves the status of the sickness benefit societies as voluntary associations, on the whole, entirely inviolate. At the same time, the Act aims at securing that the operations of the societies shall be planned and executed on principles more scientific, and in closer conformance to the social mission of the work, than has hitherto often been the case. With this object in view, the operations of these societies are subjected to what is, in many respects, a very rigorous regulation, both in formal and in more substantial matters. It is likewise for this purpose that the Act has created *Sickness Benefit Societies Inspection,* armed with far-reaching powers. Finally, the State too has undertaken to provide the sick benefit movement with far bigger subsidies, estimated on sound scientific principles.

Legislation now in force. *The Sickness Benefit Societies Act of the 4th July 1910,* and the *Royal Decree* promulgated in connection with it relating

[1] Note should be taken that the average figure given here must, for divers reasons, be deemed to be a maximum figure. In real fact the sick benefit movement would appear not to have numbered more than about 500 000 souls (equivalent to 9 % of the population).

to *State Contribution to Sickness Benefit Societies,* contain substantially the following regulations.

Registration. The Act of 1910, like the earlier law, does not prescribe compulsory registration. However, owing to an amendment of the law introduced in 1912, whereby the unregistered sickness benefit societies were debarred of all rights as "juristic persons", the existence of these latter funds in the future is gravely menaced. Registration entails, among other advantages, full legal rights, and moreover constitutes a condition for the receipt of State aid. To be eligible for registration it is required (besides that the statutes are framed in conformity with the prescriptions of the Act) that the number of members shall be at least 100; notwithstanding, in certain cases registration may be granted for a society with down to 25 members. A special type of sickness societies is constituted by the so-called "fortsättningskassor" (continuation societies), the mission of which is to provide sick pay when the sick allowance period in the primary funds has expired.

Work of the Sickness Benefit Societies. In addition to sickness benefit, the sickness societies under the terms of the Act, are also entitled to provide funeral benefits, not exceeding 200 kronor, but are not permitted to indulge in any other kind of activity foreign to their proper purpose. The law does not render it incumbent on the societies to provide their members with medical assistance, though it endeavours in various modes to encourage this aspect of sickness benefit work. The cash benefits which in Sweden are the prevalent form of sick benefit, shall amount to at least 90 öre a day, and, by reason of the regulations as to State contributions, the upward limit is 4 kronor a day. The period of sickness pay to each member shall extend to at least 90 days a year. The law does not prescribe any upward limit: the sickness societies have no limitations whatever imposed upon them as to the period of allowance. In conformity with the Workmen's Compensation Act, the law enacts that in cases of accident occuring while at work, the sickness society shall in all cases furnish sick benefit up to 60 days.

Fees and Accumulation of Funds. Registered sickness benefit societies are under obligation to levy on their members fixed fees, in accordance with the regulations of the Act, and extra assessment shall only be resorted to as an emergency measure. The fixed fees shall be so proportioned that they suffice for the necessary accumulation of funds, and the funds of the societies shall not be applied to other objects than sick and funeral benefits.

Inspection. An important feature in the new sickness societies' legislation is the board of inspection created by the Act of 1910. That board has not merely administrative, but also advisory and supervisory functions. The duties assigned to the said board, which from 1913 forms part of the Royal Social Board, are substantially as follows:

(1) To administer the registration of sickness benefit societies, and in connection therewith to keep the register thereof.

(2) To furnish the sickness benefit societies with advice and information both in the framing of their statutes, and in the planning and the organization of their work.

(3) To supervise and control the work of the societies and, when necessary, to give instructions for rectifying faults.

(4) To estimate and disburse the State subvention to the societies.

State Aid. Under the terms of the Royal Decree of the 4th July 1910, the State subvention to the sickness benefit societies registered under the Act of 1910 is disbursed on the following basis:

(1) 1 kr. for each member in the society on the 31st December of the year next preceding.

(2) 25 öre for each day of illness, exclusive of Sundays, for which sick allowance has been granted in the year next preceding, provided that in any case the amount shall not be less than 50 öre, nor exceed 2 kr. per member.

(3) One fourth of the expenditure of the sickness benefit society during the year next preceding for medical assistance and medicine supplied to members, but not more than 1 krona per member.

Concurrently with the issue of the new law, the State grant for the furtherance of the sickness society movement was raised from 500 000 to 1 256 800 kr.

Maternity Benefit. There are no regulations in the Act of 1910 which render sickness benefit societies liable to provide maintenance in cases of childbirth, that is, maternity benefit *(moderskapshjälp)*. However, the question of maternity insurance has attracted great attention in Sweden as well as other countries. In 1911 a proposal, drawn up in the Home Office by specially appointed experts, for compulsory maternity insurance for women of the labouring classes, was brought forward. However, owing to the criticism with which this proposal was battered from divers quarters, it was never laid before the Riksdag. In lieu of it, a Royal Bill was introduced in the Riksdag in 1912, providing for the disbursement of a special State subsidy to those sickness benefit societies which voluntarily furnish their female members with maternity benefit. The *Royal Decree of the 6th December 1912* on the subject contains substantially the following regulations.

Sickness benefit societies registered under the Act of 1910, and which, in conformity with the regulations, have disbursed maternity relief to their female members, shall be entitled to receive in return for this a State subsidy, provided that the said maternity benefit is paid during a certain period ensuing in close proximity on the birth of the child, of at least 14 (and not exceeding 42) days; that such relief shall only be paid to women who belonged to a registered sick fund continuously for at least 270 days previous to the child-birth; and that a woman during the period in which she is in receipt of maternity benefit shall abstain from work in pursuit of a livelihood. The State contribution is 60 öre for each day for which maternity benefit (at least 90 öre per day) has been dispensed.

The new law of 1910 has manifestly been greeted hailed with great satisfaction, it has been largely instrumental in bringing greater system and uniformity into the Swedish sickness fund movement. Thus at the termination of the year 1914 more than half of the sick funds in Sweden, aggregating in round figures 500 000 members, would appear already to have accomodated themselves to the new legislation. As for maternity relief in particular, it has also been received with open arms. Thus already now two years after the issue of the Royal Decree, approximately 80 000, that is, about half of all women insured against illness, would appear to have made provision for maternity relief.

Pension Funds. In sequence to the above review of the Sickness Benefit Societies, it would seem appropriate to give a brief account of that kind of societies which are generally lumped together under the appellation of *pension funds* (pensionskassor). The pension funds that exist in Sweden are very manifold in status and mode of operations. The majority are so far exclusive that to obtain admission it is necessary to have a permanent post. In many cases they are obligatory. Quite a number of these institutions have been established for a certain corps of officials employed in the public service, and a good many of them are intended for officials and workpeople in private employ, such as, for example in railway and industrial enterpri-

ses. When obligation to enter one of these funds has been imposed on employees, that obligation must be deemed to be based on a contract of service. The employer, or, as it may be, the State or commune, often makes regular contributions to the various funds, and several private employers have, moreover, endowed the pension fund established for the benefit of their workpeople with a capital of more or less material consequence for the financial standing of the fund, by way of a first push-off. There do, however, exist pension funds whose exclusiveness is very slightly marked, — thus, admission may be open to all who belong to a certain crowded profession in some town of importance —, as well as there are pension funds that give free admission to all. In these cases admission is voluntary. Among both the exclusive and the non-exclusive funds one distinguishes two different categories, namely (1) those whose object is to provide pensions to the members themselves and (2) those whose purpose is to assure this advantages to members' widows and children. Occasionally both these objects are combined within one and the same fund. Many pension funds, particularly the larger ones, operate in accordance with modern statistical principles: members' fees predetermined, independent of the number of members, nicely adjusted to the benefits held forth, and progressive accumulation of funds on a sound scientific basis. A good many pension funds operate on principles according to which the value of the pension offered is undetermined, which may be effected in two ways. Either the amount of the pension is not fixed, but is made dependent on the amount of the means available and the number of the pensioners, or else a certain number of pensions is fixed beforehand, so that a person otherwise entitled to pension does not enter into receipt of his pension until a vacancy occurs. Occasionally pensions are granted only to the necessitous, in which case they assume the character of relief, rather than of pensions in the ordinary sense.

Legislation in force. Pension funds were long left by legislation to their own resources. This state of things, however, was terminated in 1912, when pension funds, along with certain other analogous societies, were made the subject of a special law, namely the *Friendly Societies Act of the 29th June 1912.*

The Act just referred to embraces in its scope societies formed for mutual aid which, without transacting insurance business for commercial profit, and without providing sickness relief, carry on certain operations coming under the head of personal insurance, such as the provision of pensions, the disbursement of a small sum of capital on the death of a member, and the like. To this category belong not only the pension funds, but also the so-called life insurance societies. These latter societies, about a hundred of which would be probably in existence at present, transact a species of life insurance on a minor scale, and with a simpler form of procedure than the big life insurance companies. The intention of the above-mentioned Act is (1) to place on a legal footing, and give a recognized status to, the work of friendly societies, and (2) to confine within proper limits the operations of friendly societies, and to provide for a certain supervision and control thereof. With the last-named object in

view, a special board of inspectors has been created for these societies, which, for the present, forms part of the Royal Social Board (*Socialstyrelsen*). Under the provisions of the Act, provident societies are in certain circumstances liable to compulsory registration. Liability to registration sets in as soon as the number of members in a friendly society exceeds 50. The following classes of societies, however, are exempt from the provisions of the Act, namely (1) institutions in which the State or commune is liable for the dispensation of the benefits (2) pension funds for persons employed in the public service, and which by a Royal Ordinance have been declared exempt from the terms of the Act.

Our knowledge of the pension funds in existence is still very defective. The sources at present available in this regard are (1) the quinquennial reports of the Governors of the Läns, which have now ceased to exist, the last collection covering the quinquennium from 1901 to 1905, (2) two reports by experts on the subject, dated 1905 and 1910. However, none of the sources referred to can claim to be exhaustive.

Out of the 210 pension funds which, not counting the Seamen Registry Offices, were accounted for in the quinquennial returns of the Governors of the Läns, as far as data on the subject are available, 3 funds were established before the close of the 18th century, 19 during the 18th century, 45 during the years from 1801 to 1850, and 127 during the latter part of the 19th century; whereas 3 pension funds had come into existence after the ingress of the twentieth century. The aggregate balance of the funds at the end of 1905 was 146 096 842 kr. No less than 63 pension funds, with a capital of 128 125 286 kr. (or 88 % of the total assets of the funds) had their headquarters in the City of Stockholm, though it should be observed that the operations of several of these funds extended over the whole of Sweden.

With regard to the amount of the capital in hand, and the grouping of the pension funds according to the social position of their members, the following figures are furnished by the experts' reports, referred to above:

	According to the 1905 Report (period 1902—03)		According to the 1910 Report (period 1909) [1]		Altogether	
	Number of Funds	Balance in hand, kr.	Number of Funds	Balance in hand, kr.	Number of Funds	Balance in hand, kr.
1. Pension Funds for Employees in the Public Service:						
In the Civil Service	3	63 815	19	51 788 261	22	51 852 076
» » Military Service	6	353 351	47	20 700 081	53	21 053 432
» » Education	1	365 790	11	35 408 363	12	35 774 153
» » Church	11	162 321	22	12 954 835	33	13 117 156
» » Communal Service	11	1 141 337	8	1 897 957	19	3 039 294
Total	32	2 086 614	107	122 749 497	139	124 836 111
2. Pension Funds for officials and workpeople in private employ	22	7 688 346	41	14 264 480	63	21 952 826
3. Other Pension Funds	68	7 767 118	31	4 325 323	99	12 092 441
Altogether	122	17 542 078	179	141 339 800	301	158 881 878

Space will not permit of a more detailed account of the various pension funds, for example, with regard to the amount of the fees, the conditions for obtaining a pension, the amount of the pensions, and so forth. For information on this head, the reader is referred to the brief accounts of some of these funds that have been given under corresponding sections in the foregoing pages.

[1] In addition to those accounted for in the 1905 Report.

TABLE 78. *Data regarding the Pension Funds.* [1]

Funds	Year of Foundation	Members' fees kronor	State aid kronor	Pensioners	Amount of Pension kronor	Balance at end of year kronor
Civil Service Widows' and Orphans' Pension Fund[2]	1826	819 673	35 000	2 472	723 218	17 963 194
Army Pension Fund	1756	276 779	2 972 630	2 183	3 514 605	3 747 794
Army (old) Widows' and Orphans' Pension Fund[3]	1817	8	—	238	28 628	[3] —
New Army Widows' and Orphans' Pension Fund	1883	374 898	120 729	996	374 190	13 155 744
Navy Pension Fund[4]	1642	199 297	437 198	1 165	637 177	3 669 051
Pilot Service Private Pension Fund[5]	1885	23 579	—	218	22 757	1 154 467
Pension Fund for State Railway Officials[6]	1872	698 300	1 831 609	1 544	1 709 383	14 876 740
State Railways Widows' and Orphans' Pension Fund	1872	818 773	[14] —	1 461	473 329	19 429 804
Telegraph Service Pension Fund	1874	117 388	226 134	191	201 250	6 418 673
Telegraph Service Widows' and Orphans' Pension Fund	1875	62 111	21 245	87	46 624	1 679 385
Customs Service Private Pension Fund[7]	1805	152 598	10 000	677	101 121	1 071 424
Clergy Widows' and Orphans' Pension Fund[8]	1874	177 992	—	1 269	591 861	13 431 829
Secondary School Teachers' New Widows' and Orphans' Pension Fund[9]	1878	201 790	144 554	395	220 648	5 775 463
Elementary School Teachers' Pension Fund	1866	916 448	680 692	1 764	1 381 619	24 260 401
Elementary School Teachers' Widows' and Orphans' Pension Fund	1875	301 374	72 790	1 076	256 267	9 595 606
Infant School Teachers' Old Age Pension Fund[10]	1892	213 461	—	1 078	274 396	692 861
Midwives' Pension Fund	1904	34 878	29 139	47	4 904	422 305
Private Railways' Pension Fund[11]	1888	1 353 216	—	502	206 167	14 447 999
Public Widows' and Orphans' Pension Fund[12]	1784	114 041	—	653	608 544	13 996 830
Gothenburg Public Pension and Widows' Fund	1879	141 198	—	418	176 700	3 495 307
Other Funds (284 in number)[13]		1 288 863	[15] —	9 352	1 057 941	47 743 212
Total		8 286 065	[16] 6 581 720	27 786	12 611 329	217 028 089

[1] The figures respecting the various funds are in most cases for 1912. All the pension funds in question, with the exception of the Navy Pension Fund, which is located in Karlskrona, and the Gothenburg Public Pension and Widows' Fund, which is at Gothenburg, have their headquarters at Stockholm. — [2] This Fund, on being reconstituted in 1908, took over the entire assets and liabilities of the previously independent Civil Service Pension Fund. — [3] The assets and liabilities of this institution were transferred from 1906 to the New Army Widows' and Orphans' Pension Fund. — [4] Comprises also the Pilot Service. — [5] Grants pension both to the pilots themselves and to their widows and children. — [6] This Fund, which previously operated as a pension fund with an independent administration, under the designation of the State Railways Pension Fund, has been administered since 1911 by the Public Treasury. — [7] Pension fund for widows and orphans. — [8] The figures are for the financial year beginning on the 1st June 1912 and terminating on the 30th April 1913. — [9] Reconstituted at the beginning of 1912; previously designated Secondary School Teachers' Widows' and Orphans' Pension Fund. — [10] The monies of the Fund are administered by the Treasury. — [11] Grants pensions both to officials and to their widows and children. — [12] Both these funds, which are not included in the tabular statement on p. 720, are now usually classified among the insurance establishments carried on for commercial profit. — [13] The figures given with regard to these funds are based on data taken from the two above-mentioned experts' reports, and thus have reference to the two periods 1902—03 and 1909. Inasmuch as regarding several of the funds data are lacking

In this connection, attention may be drawn to two other institutions mentioned in another place, which make it part of their business to grant pensions to a certain class of men, namely *sailors*. One of these institutions is the *Seamen Registry Offices*, the expenditure of which for pensions is partly defrayed from members' fees; the other is the *Mercantile Marine Pension Fund*, which is supported solely from State funds.

In connection with this account of pension funds in a true sense, namely those based on self-aid, mention may also be made of the many "funds" *(fonder)* founded by private charity, for providing necessitous persons with pensions without their own cooperation. Including the Mercantile Marine Pension Fund, there existed in 1905 no less than 895 of these institutions, which in the same year dispensed relief to an aggregate amount of 1 741 279 kr.; the balance of capital in these funds at the end of the year totalled 37 637 501 kr. Among these funds must be reckoned, *inter alia*, also the following funds founded with the aid of State monies for providing relief to soldiers, particularly the rank and file of the Army, namely: the Vadstena Soldier's Fund (4 412 449 kr.)[1], the Pensioners' Hospital Fund (3 405 438 kr.), and the Conscripts' Hospital and Pension Fund (3 591 563 kr.) Altogether, these three funds in 1912 provided relief to about 13 000 persons to an amount of over 800 000 kr.

Several of these 895 so-called *"fonder"*, which were accounted for separately under that designation, in the quinquennial reports of the Governors of the Läns, and have been dealt with in this place accordingly, were, however, classed in the above mentioned experts' reports among the *"pensionskassor"*. They have therefore been included in the figures given above for pension funds proper.

Accident Insurance. Apart from certain special ordinances, early Swedish law did not contain any other enactments as to employers' liability, than those that could be deduced as corollaries from common law.

in certain particulars, the figures given are only approximate. — [14] See note [15]. — [15] One or two of these funds are apparently in receipt of State aid, though the total amount of that aid would appear to be comparatively small; however, the experts' reports, from which the other figures given here have been obtained, do not furnish any exact information on this head. — [16] In order to obtain a more exact statement of the *total expenditure of the State for pensions* in 1912, it is necessary to add to the total of 6 581 720 kronor several other rather considerable items, of which the most important would appear to be the following: Treasury grant to the three pension funds, the Mercantile Marine Pension Fund (106 000 kr.), the Vadstena Soldiers' Fund 243 640 kr.), and the Pensioners' Hospital Fund (60 350 kr.); further the expenditure for the direct pensioning by the State of her own officials; notably for the so-termed "Allmänna Indragningsstaten", or Half-pay List, (2 213 311 kr.), for the pensioning of civil officials (948 803 kr.), for the pension establishments of the Customs Service (312 661 kr.), of the Post Office (303 057 kr.), of the National Debt Board (11 867 kr.), and of the Bank of Sweden (69 159 kr.), to which must be added the pensioning of the rank and file of the Navy and Pilot Service (211 260 kr.). In this way the total expenditure of the State for pensioning will rise to about 9 800 000 kr. This, however, does not include the kind of State aid which certain widows' and orphans' pension funds, and other similar institutions, receive in the shape of a share in fines, and the like, which in 1912 amounted, for example, in the case of the Customs Service Private Pension Fund to 20 474 kr., and for the State Railways' Widows' and Orphans' Pension Fund to 352 057 kronor.

[1] The figures in brackets give the balance of capital at the end of 1912.

The first proposal for comprehensive legislation on this subject emanated in 1888 from the above mentioned Workmen's Insurance Committee, in their Report on Legislation with regard to *Insurance against Accidents incurred during Work.* The proposed scheme contemplated the introduction of compulsory insurance against accident for workers in industry, transport, and shipping. The Bill, however, was thrown out by the Riksdag.

In the meantime, the Workmen's Insurance Committee had been continuing its labours, and in 1889 had brought forward a scheme for general old age insurance for the whole population of Sweden. This proposal, however, was not accepted by the Riksdag, which, in lieu of it, took up the suggestion of solving both old age and accident insurance in one, and on the basis of the principle of disablement. For this purpose there was appointed in 1891 a new committee, the so-called New Workmen's Insurance Committee, which, two years later, presented a proposal for a law relating to the provision of pensions in the case of permanent incapacity for work. Insurance should be made compulsory only for industrial workers, and should apply to incapacity for work, whether due to old age, accident, or other causes. The expenditure for the purpose should be defrayed from fees paid partly by the employers, and partly by the workpeople. However, this proposal too failed to win the approval of the Riksdag.

The same fate was reserved for a new proposal, which was based on the main principles of the 1895 scheme, and was laid before the Riksdag in 1898 (see the section of Old Age and Invalidity Insurance for a more detailed account of both proposals).

After all these abortive attempts to reach a solution of the problem on the basis of compulsory insurance, there was no other way left open but to endeavour to obtain a law founded on direct liability of compensation: in other words, one had to be content with an employers' liability law. A proposal on this basis was, in fact, laid before the Riksdag in 1900 and 1901 and was passed in the latter year, as the *Workmen's Compensation Act* now in force. This was followed by a Royal Decree of the 2nd October 1908 relating to *Accident Insurance for Fishermen* and a Royal Decree of the 18th June 1909 relating to *Compensation for Injury incurred in Military Service.*

The Workmen's Compensation Act of 1901 is now generally acknowledged to be in need of a thorough revision. There would appear to be a general consensus of opinion that the new legislation which shall supersede that now in force, shall rest on the basis of c o m p u l s o r y i n s u r a n c e. The question as to the revision of the law has been delegated to the so-called Old Age Insurance Committee (see below), which is expected to bring forward proposals for a new law on the subject before the Riksdag in the year 1916.

Legislation now in force. The *Workmen's Compensation Act of the 5th July 1901,* broadly speaking, embraces in its sweep the entire range of industry, inclusive of forestry and mining, as well as the loading and un-

loading of cargo, and railway and tram traffic. On the other hand, the Act does not apply either to shipping, or to agriculture in a strict sense. Liability for compensation comprises all injuries incurred owing to accidents in work, with the exception of accidents which the injured person has incurred wilfully or owing to gross negligence.

Compensation for injury, and its amount. Employers are liable for compensation on the following basis:

(a) accidents that have been attended by appreciable diminution of capacity for work for more than 60 days, shall be compensated at the rate of 1 krona a day from the 61st day inclusive;

(b) accidents that have been attended by a permanent incapacity for work, or a permanent loss of capacity for work that may be estimated at not less than 10 % of the normal, shall be compensated with an annuity, varying according to the degree of the incapacity, but not exceeding 300 kronor per annum (in the case of complete disablement);

(c) accidents that have been attended by death shall be compensated with firstly a funeral benefit of 60 kronor, and secondly with annuities to the widow and children: to the widow 120 kronor, and to each child under fifteen 60 kronor per annum. The aggregate amount of these annuities, however, shall not exceed 300 kronor.

The State Insurance Office. Employers who so desire are entitled to exempt themselves from liability for damages by insuring in the State Insurance Office, an institution established by the State and maintained out of public monies. When an employer has become liable for the payment of an annuity to one of his injured workpeople, he may exempt himself from further liability of payment by the purchase of a corresponding annuity in the State Insurance Office.

Swedish employers have largely availed themselves of insurance to cover themselves against the risks to which the law renders them liable. Insurances of this kind have been undertaken also by private insurance companies, and moreover the employers themselves have formed insurance societies on their own account. The number of workpeople whose compensation for accident has been secured in this manner by insurance cannot be exactly ascertained. However, leaving out of account the State offices and institutions in which insurance does not occur, it may be assumed that at least three-fourths of the total number of workpeople entitled to compensation under the Act of 1901 have been insured.

The Royal Ordinance of the 2nd October 1908 relating to Insurance against Accident for Fishermen.

In pursuance of the terms of this Decree, any fisherman domiciled in Sweden is entitled to protect himself by insurance in the State Insurance Office against the consequences of accident. The principles for insurance are identical with those in the Workmen's Compensation Act of 1901, but with the extended provision that in the case of death, failing the existence of a widow and children under 15, the compensation shall be paid to the deceased person's parents and brothers and (or) sisters under 15, provided that the deceased has supported them or contributed to their support. The compensation in this case is paid in the form of a sum down once for all of 400 kronor. The annual insurance contribution is fixed at 5·50 kronor. The additional sum required to complete the insurance is defrayed out of State monies.

However, this voluntary insurance for fishermen has hitherto been comparatively little resorted to. The entire number of fishermen thus insured was at the close of 1912 only 1 363.

Royal Ordinance of the 18th June 1909 relating to Compensation for Injury incurred in Military Service.

Under this enactment both the conscripts and the regulars of the Army and Navy are ensured of compensation in the event of injury incurred in the course of their service. Compensation under this enactment shall be paid for injuries incurred both in peace and war, as well as for illness attended by bodily injury which breaks out during or after the termination of military service, and as to which there is reasonable presumption of its having been brought on by the said service.

The regulations as to compensation are framed substantially in accordance with the corresponding enactments in the Act of 1901. The payments however, are, as a rule, 50 % higher, namely 1·50 kr per day in the case of temporary injury, and an annuity not exceeding 450 kr in the case of permanent disablement or death. The "*karens*" period, that is the time during which allowances are suspended, is in the case of accidents incurred in military service reduced to three days.

Old Age and Invalidity Insurance.

At the close of the eighteen-eighties, sundry private bills were brought forward in the Riksdag in favour of the adoption, in some shape or another, of old age insurance. One of these bills resulted in the appointment of the so-designated "*First Workmen's Insurance Committee*", which in 1889 submitted a scheme for old age insurance providing for compulsory insurance of the entire nation.

Under the provisions of that scheme, costs should be defrayed from the fees of the insured themselves, which should be paid for a period of ten years, namely from the age of 19 to that of 28 inclusive. The amount of the fee was fixed at 25 öre a week, that is, altogether 13 kronor a year. In return for this, the insured at the age of 60 should receive an annual pension of 72 kronor.

The Committee's scheme, however, never came before the Riksdag. In lieu of this, the Government in 1891 commissioned the so-termed "*New Workmen's Insurance Committee*" to draft proposals for insurance against invalidity, whether arising from old age or from accidents incurred in work.

The Committee having duly submitted its proposals, the Government in 1895 brought forward a Bill in the Riksdag, on the basis thereof.

The Bill contained regulations for insurance against invalidity, to which attainment of the age of 70 was defined to be equivalent, for all persons over 18 years of age employed at an annual salary of not exceeding 1 800 kronor. The insured were divided into three classes with reference to pensions. The insurance fees in these three classes were 20·00, 12·50 and 7·50 kronor per annum respectively, out of which amount the workpeople should contribute 12·50, 7·50 and 5 kronor respectively, and the employers the residue. The third class included workmen's wives, the fees for which latter should be defrayed by the State. The amount of the pensions, after 50 years of insurance, was estimated at 300 kronor in the highest class, 175 kronor in the intermediate class, and 100 kronor in the lowest class.

The Riksdag, however, threw out the Bill and called for a new inquiry and new proposals.

A new Government Bill was accordingly introduced into the Riksdag in 1898. The chief feature that distinguished it from the scheme of 1895 was that the liability of employers for contribution had been eliminated and replaced by equivalent State contributions, which were fixed at half the contributions of the insured. The age limit had been lowered from 70 to 65 years, but, at the same time, the right to a pension on the ground of invalidity had been rendered conditional on the attainment of the age of 50. For those who between the ages of 18 and 50 had duly paid the stipulated fees, the pensions in the three classes, at the age of 65, should be 200, 150 and 100 kronor respectively.

This Bill too, like the others, was thrown out by the Riksdag.

In 1907 the Government appointed a new committee, known as the *Old Age Insurance Committee*, deputing to it the task of setting on foot an all-round and exhaustive investigation into, and to submit proposals for, "national old age and invalidity insurance".

The Old Age Insurance Committee submitted its report on the subject at the close of 1912. After some modification, the Committee's scheme was *laid before the Riksdag in 1913*. The scheme, having undergone further modification in sundry details, was eventually passed by the Riksdag. Thus was issued the *National Insurance Act of the 30th June 1913*.

Legislation now in force. *The National Insurance Act of the 30th June 1913* provides for combined invalidity and old age insurance for the whole nation. It renders the bulk of the population between the ages of 16 and 66 liable to insurance fees — varying according to different scales of income — and bases on the due payment thereof the title to pensions corresponding to the value of the fees, and payable in the case of invalidity (permanent incapacity for work), or on the attainment of the age of 67. As regards disabled pensioners who are either impecunious or in receipt of merely a small income falling below a specified amount, the pension is eked out by contributions from public means. Furthermore, provisions is made for voluntary insurance with the aid of State subvention. The administration of the national insurance is vested in a central authority for the whole of Sweden, designated *Pensionsstyrelsen*, or the Royal Pensions Board, and in special local organs called *pensionsnämnder*, or local pensions committees.

Extent of liability for the payment of pension fees. With respect to liabality for the payment of pension fees, the following special regulations are in force. Pension fees shall not be paid by anyone previous to the year in which he attains the age of sixteen, or subsequent to the year in which he attains the age of sixty-six, or for any year in which he has not been registered as residing in Sweden. Nor shall pension fees be paid by any person who is permanently incapacitated for work.

Persons, however, coming under the following categories are dispensed from the payment of fees, namely: Persons holding permanent posts in the State service, members of the Telegraph Service Pension Fund and the Elementary School Teachers Pension Fund, members of the Army or Navy Pension Funds,

ordained clergymen, and, moreover, the wives of all persons thus exempted. Further, decision shall rest with Government whether, and under what conditions, persons that are entitled to a pension on the ground of holding posts in the public or in private service, or on the ground of insurance in a pension or annuity establishment, shall be dispensed from the payment of fees.

Scales of income and fees. All insured persons shall pay an annual *foundation fee (grundavgift)* for all in common, of 3 kronor. Over and above that foundation fee, all persons who during the year next preceding have been in receipt of an income of at least 500 kronor, shall pay an additional fee *(tilläggsavgift)* of 2 kronor, if their income is under 800 kronor, of 5 kronor, if their income is as much as 800 kronor but less than 1 200 kronor, and of 10 kronor, if their income is as much as, or exceeds, 1 200 kronor.

The insured are thus divided according to income into 4 "income classes" with varying fees in accordance with the subjoined scheme:

Annual income under	500	kronor	fee	3	kr.
» »	500— 799	»	»	5	»
» »	800—1 199	»	»	8	»
» »	1 200 kr. and upwards	. . . . .	»	13	»

The foundation fee is defrayed by the commune in which the person is registered. The fees are collected by the same authorities as collect the rates (in the country by the *kommunalnämnd*, in towns by the *drätselkammare*, except in Stockholm, which has a special board for the collection of rates). The fees thus collected are delivered to the Pension Fund. Should any person liable to the payment of fees fail to pay the foundation fee, or pay only part thereof, the commune in which the said person resides shall be held responsible, and shall be liable, for the due payment of the fee thus outstanding.

The said additional fees of 2, 5, and 10 kronor respectively shall be debited and collected along with the State taxes. In exceptional cases Government may prescribe that the foundation fees of 3 kronor shall likewise be collected along with the State taxes. However, this provision does not exempt the parishes from their liability for the payment of the fees into the Pension Fund.

The pensions. Pensions are granted for the amount which corresponds, in accordance with the rules below, to the value of the pension fees paid (fee pension), and in the case of disablement of an additional amount defrayed from public means (pension increment).

A *"fee pension" (avgiftspension)* is given in the case of permanent incapacity for work, and in any case not later than on the attainment of the age of 67, even if permanent incapacity for work has not yet set in. "Permanent incapacity for work" (invalidity) shall be deemed to exist in any person who in consequence of old age, bodily or mental disease, crippled condition, or defect, is unable any longer to support himself by work accommodated to his strength or ability. The amount of the fee pension is for men 30 %, and for women 24 %, of the aggregate sum of the pension fees.

The *"pension increment" (pensionstillägg)* is paid only in the case of invalidity, and its amount depends on the annual income of the pensioner. If the latter amounts for men to 300 kronor, and for women to 280 kronor, or over, no pension increment is granted. The pension in this case consists only of the fee pension. For pensioners with smaller incomes than the above, the rules for determining the amount of the pension are as follows: — If the pensioner has no income of his own, or if his annual income does not exceed 50 kronor, the pension increment reaches its maximum amount, that is 150 kronor for men, and 140 kronor for women. If the income is more than 50 kronor, and does not exceed 100 kronor, the pension increment is reduced by the amount by

which the income exceeds 50 kronor. When the annual income exceeds 100 kronor, the pension increment is reduced by half the amount of the income.

The pension increment thus estimated is, however, increased by 0·08 % for every krona of the pension fees paid in full. Example: Suppose that a man has for 12 years of his life paid in annual pension fees 13 kronor, for 18 years 8 kronor, for 10 years 5 kronor, and for 8 years 3 kronor. The aggregate of the pension fees paid will thus be 374 kronor. The fee pension is 30 % of this amount, or 112·20 kronor. For a woman who has made the same payments the fee pension will be 24 % of 374 kronor, that is 89·76 kronor. If now the man at the time when he incurs disablement is in receipt of an annual income of 110 kronor, his increment will be 95 kronor, without reckoning the above-mentioned addition of 0·08 % for every krona of the fees paid. The addition, however, now accrues, and makes 0·08 % × 374 = 29·92 % of 95 kronor, that is 28·42 kronor, the total increment being 123·42 kronor. The man's entire pension will thus be 112·20 + 123·42 = 235·62 kronor. In the case of a woman in receipt of an income of 110 kronor, the increment, without reckoning the addition of 0·08 %, would have been 85 kronor. The addition would make 29·92 % of this sum, that is 25·43 kronor, and the entire pension increment would thus be 110·43, and the total pension 89·76 + 110·43 = 200·19 kronor. The *maximum* pension amounts are 428·46 kronor for men, and 373·38 kronor for women.

In the annual income which is taken as the base for computing the amount of the increment, the fee pension is not included. If the income consists entirely or partially of payments in kind, the rule is that for persons who are able to gain a complete, even though scanty, subsistence from their income, the annual income shall not be estimated lower than 300 kronor for men, and 280 kronor for women. In other words, they shall not receive any increment to their pension. The annual value of a rent-free dwelling shall not be assessed lower than 50 kronor.

In estimating the amount of the increment for *married couples*, the annual income for each of them shall be rated at half of their joint income.

A person who is disabled at the age of 15, or who afterwards becomes disabled without fees having been paid in for his account, shall not be entitled to a pension, or to an increment to his pension. But he may receive *relief* to the same amount, and under the same conditions, as in the case of a pension increment.

A pension may be *withdrawn* if the invalidity has ceased to exist and the pensioner has recovered his capacity for work; however, the fee pension shall not be withdrawn in the case of pensioners who have reached the age of 67. The increment alone shall be withdrawn if the annual income has risen above the amount entitling to an increment to the pension. If the income otherwise increases or diminishes, the increment shall be reduced or raised accordingly.

An increment applied for shall not be granted, and an increment already granted to a person otherwise pensionable shall be withdrawn, in the following cases (the legal term for which is *värdighetsbestämmelserna,* or "regulations as to respectability"): (a) If he has dispossessed himself of, or secreted, income or property with the deliberate object of obtaining an increment, or a higher increment than he would otherwise have been entitled to; (b) if he has been guilty of contumacy or manifest negligence in the fulfilment of his obligation as to the payment of fees; and (c) if he manifestly is not endeavouring to contribute to his subsistence in accordance with his capacity, or if he is addicted to intemperance. In the two first cases the pension committee may grant a reduced increment.

The increment shall further be withdrawn during the period in which a pen-

sioner undergoes imprisonment for not less than a month, or has been sentenced to compulsory labour (*tvångsarbete*). If he has relatives that are dependent on him for their subsistence, the latter shall be entitled to receive the increment during the said period.

The *expenditure for the pension increments* is defrayed as to 3/4 by the State, as to 1/8 by the communes, and as to 1/8 by the County Councils (*landsting*), and the cities which are not represented in the "landsting" (Stockholm, Gothenburg, Malmö, Norrköping and Gävle). The aggregate public expenditure is computed under the assumption that the system has settled down into normal working order, and on the basis of the figures for 1907, at 38 million kronor a year. The expenditure for the first year will be 3·55 million kronor, out of which 2·66 million kronor devolve on the State.

Administration of the Insurance System. The administration of the insurance system is vested, as above mentioned, in a *Royal Pensions Board (pensionsstyrelse*; cf. below) for the whole of Sweden and in local organs ranging under it, *the local pensions committees (pensionsnämnder)*.

A local pensions committee shall be established for each pension district. As a general rule, each commune shall comprise one such district, although in certain cases a commune may be divided into several pension districts, or contiguous communes may be combined into one pension district. These pensions-committees shall consist of a chairman and 2, 4, or 6 members, with an equal number of substitutes. A deputy nominated by the Royal Pensions Board for each pension district in order to guard the interests of the State, shall be entitled to take part in the deliberations of the committees, but without a vote.

Applications for pensions shall be made in accordance with a prescribed formula to the local pensions committee in the pension district in which the applicant has last been registered as residing. The pensions committee decides on the ground of the said application whether the applicant is entitled to a pension, and determines the amount of the annual income that shall be taken as a base of the amount of the increment to the pension. Appeal from the decisions of the pensions committee may be made by private persons, communes, the public deputies, and the chairman of the committee. The appeal lies to the Royal Pensions Board.

The *Royal Pensions Board*, which to begin with is composed of a director-general and six members besides a large number of other officials, shall with regard to each pension estimate and determine the amount, and, if the pension amounts to at least 6 kronor a year, issue a pension certificate *(pensionsbrev)*, which shall be forwarded to the pensioner through the medium of the pension committee. Private persons have no appeal from the finding of the Royal Pensions Board. This right accrues only to the Attorney-General (*justitiekanslern*), and, with his sanction, to the commune, the chairman of the committee, and the public deputies. The court in this instance is the Supreme Administrative Court.

The *pensions are paid* through the Post Office.

Voluntary Insurance. Voluntary insurance extends to all Swedish persons that have attained the age of 15, and thus also to those who have been exempted from the payment of fees for compulsory insurance (State servants). The fee shall be at least 1 krona, and shall not exceed 30 kronor a year. The pension, which shall be granted in the event of disablement or on the attainment of the age of 67, is as regards men, for each fee paid, 1 1/2 % of the amount of the fee for every completed year that has elapsed from the day the fee was paid to the day from which the pension is payable. As regards women, the pension is 5/6 of the corresponding amount for men. The State adds to each pension an amount equivalent to 1/8 of the voluntary fee paid during the year.

Regulations regarding the period of transition. The law entered into force on the 1st January 1914.

Entirely *excluded* from insurance are the following classes: (1) Those who on the 1st January 1914 have attained the age of 67, and (2) disabled persons who have then attained the age of 15 and who in 1913 have for a total period of more than 4 months been entirely supported by the poor-law guardians, charitable institutions, or private persons.

The *pension increment* or *relief* is reduced, in accordance with a certain scale, for those so entitled during the years from 1914 to 1918. In 1919 the reduction is entirely abolished and the pension increments are paid in full.

The *fee pension* is reduced for those who on the 1st January 1914 have attained the age of 25, the percentage at which the fee pension is estimated being lowered for those above that age, according to a fixed scale.

Charitable Foundations and Institutions, Donation Funds, etc.

Donations for various purposes, such as scholarship funds, pension funds, sick benefit funds, and similar institutions have, according to the practice followed in certain Swedish reports, been grouped together under the designation of "fromma stiftelser", which corresponds pretty nearly to what in English would be called "charitable institutions".

However, these institutions are of such a very miscellaneous character, that it is quite misleading to lump them together in this manner. Thus, for instance, one sees frequently included among "charitable institutions" sick benefit and burial funds, pension funds, and other funds that are supported by the members' own contributions, and which therefore can only be reckoned among "charitable institutions" by a rather violent stretch of language. It is, however, fair to add that certain of these funds have received donations, or are in receipt of aid from the State, from employers, etc., whereby their character of "self-aid" institutions is to a certain degree modified. The various funds referred to above will be found dealt with under separate sections.

Other kinds of "charitable institutions" returns of which were made in 1905[1] are distributed as follows, according to the object of the institution.

	Institution	Capital, kr.
Institutions for poor relief proper	2 957	37 069 171
Do. for the care and education of children .	2 798	42 463 631
Scholarship funds and educational funds	2 108	84 633 169
Institutions for the tending of the sick (not self-aid)	489	24 264 488
Pension funds (without fees)	895	37 637 501
Other institutions and establishments	794	24 350 270
Total 1905	10 041	250 418 230

The Table 79 gives all charitable institutions founded prior to 1905 with over a million Kronor in assets.

With regard to various of these institutions and others, more detailed accounts will be found elsewhere (see "Other more important foundations for the promo-

[1] Owing to the introduction of a new method of statistical returns, later data than for 1905 are not available for all such institutions.

TABLE 79. *Some Important Foundations*[1] *(1905).*

Name of Institution	Headquarters	Year of Foundation	Assets kr.
The Nobel Foundation	Stockholm	1895	33 684 000
Public Orphanage	»	1637	6 136 000
Vadstena Soldiers Fund	»	1622	4 376 000
Stockholm Nursing-Home	»	1860	4 216 000
Gustavus Adolphus' Donation Fund	Uppsala	1624	3 596 000
Asylum of the Order of Carpenters	Stockholm	1796	3 593 000
The Royal and Hvitfeld Scholarship Fund	Gothenburg	1664	3 546 000
Oscars II's Jubilee Fund	Stockholm	1897	3 443 000
Pensioners' Hospital Fund	»	1812	3 158 000
Gothenburg Museum	Gothenburg	1861	3 059 000
Längman Donation Fund	Stockholm	1859	3 022 000
Forsgrén Fund	»	1899	2 367 000
Conscripts' Hospital and Pension Fund	»	1860	2 291 000
Freemasons' Orphanage	»	1753	2 087 000
Crown Princess Louisa's Nursing-Home for Sick Children	»	1848	1 963 000
John Söderberg's Fund at Stockholm University	»	1886	1 896 000
Danviken Home	»	1531	1 588 000
Hospital for Aged Burghers	»	1788	1 559 000
Robert Dickson Fund	Gothenburg	1856	1 450 000
Gillberg Orphanage	Uppsala	1843	1 350 000
Wilh. Röhss Fund	Gothenburg	1901	1 244 000
Home for the Aged at Gothenburg	»	1726	1 242 000
Gothenburg Nursing-Home	»	1862	1 199 000
Widows' Home	Stockholm	1724	1 179 000
Bergian Foundation	»	1784	1 155 000
Axel and Sofia Alm Foundation	»	1874	1 151 000
Rehnström Fund	Gothenburg	1867	1 129 000
Eugenia Home	Stockholm	1879	1 106 000
Asylum for Pauvres Honteux	»	1862	1 087 000
"Mute School" (Deaf and Dumb)	»	1860	1 073 000
Tage Ludvig Sylvan's Agricultural Institute	Bollerup	1876	1 057 000

[1] Cf. p. 468.

tion of Culture" and Index); these accounts, moreover, give more complete and more recent figures.

The subjoined Table shows the dates of the foundation. In 1800 there were 775 of these institutions. During the period from 1801 to 1850 1 787 and in the period from 1851 to 1900 6 548 new institutions were founded.

Year	Number of Institutions	Year	Number of Institutions	Year	Number of Institutions
—1700	65	1851—1875	2 767	1896—1900	697
1701—1750	148	1876—1880	875	1901—1905	522
1751—1800	562	1881—1885	837	unknown	409
1801—1825	706	1886—1890	687	Total	10 041
1826—1850	1 081	1891—1895	685		

A law providing for the *superintendence* of the employment and administration of these donation funds is now being prepared.

Social Administration of the State.

The social duties of the community long rested to a great extent on *local bodies*, and in particular on the communal administration, which amongst other obligations had charge of the relief of the poor *(fattigvård)*

vård) and matters therewith connected. A large share of social work also devolved from ancient times on the *local* State authorities, that is, the governors of the läns, and on the Church. However, in recent times, particularly owing to the increasing gravity of labour problems, it became more and more imperative for the State, by dint of legislation, the extension of financial aid, and other measures, to embrace various social matters within its sweep. The *central administration* of the State's social policy has hitherto fallen mainly within the purview of the *Civildepartementet,* the Home Office, although important social duties have also devolved on other departments.

However, as the central administration has long been in lack of a trained working staff for this special purpose, the investigation of important new problems in this sphere has fallen mainly on *committees*. There was, for instance, the Workmen's Insurance Committee of 1884, that of 1891, the Protection of Workers Committee of 1905, the Poor Relief Legislation, the Old Age Insurance, the Temperance, the Dwellings committees, etc., many of which are now at work.

The constant need of investigations in social matters caused a series of official and statistical enquiries into labour questions to be set on foot during the years from 1897 to 1902, and occasioned the foundation in 1903 of a Bureau of *Labour Statistics* in the Board of Trade (existing 1903—12, until the Social Board, see below, was established). This Bureau was in the course of time entrusted with a number of administrative duties, and in consideration of the new *onera* laid upon it, had its scope considerably enlarged.

Socialstyrelsen. In 1912 the Government proposed the establishment of a central office for social questions. The Government proposal was passed by the Riksdag, and at the beginning of 1913 the new office, which was entitled *Socialstyrelsen* or the Social Board, started into operation. The Board was made subordinate to the Civildepartementet, the Home Office, which consequently had thrust upon it a great deal of additional business in the social line.

It devolves on the Social Board, to deal with matters of a social nature. The following enumeration will give a notion of the kind of duties which fall within its purview. The *labour market* (situation thereof, labour exchange, wages, unemployment, foreign labour in Sweden); *relation between employers and employed* (labour contracts, collective agreements, labour disputes, conciliation and arbitration), *protection of workers* (security against accidents, employment of children and women, hours of rest, length and distribution of hours of labour, home industries); *providential benefits* (sick-benefit and friendly societies, and other forms of social insurance); *other questions of an essentially social nature* (temperance work, different kinds of unions, dwellings, costs of living, emigration, and supervision of emigrants agents). The Board is the chief authority for the inspection of trades (see: Legislation for the Protection of Workers), and the supervisory authority of the sick-benefit system (see the corresponding Section); moreover it supervises the labour exchanges (see the corresponding Section) and the State conciliators in labour disputes (see the corresponding Section). Further, the Board is the supervisory authority of pension societies (see: Pension Funds). Moreover it devolves on the Board to make statistical and other investigations with regard to labour conditions, etc., draw up reports on labour conditions

abroad, and to issue publications, and amongst them, the periodical called "*Sociala meddelanden*" (Social Returns).

The Social Board has at its head a director-general, and it is divided into four bureaus. The first of these bureaus deals with labour exchange and social matters in general, the second is concerned with matters relating to the protection of labourers, the third has to do with the sick-benefit system, etc., and the fourth handles social statistics, etc. The Board consists of the four heads of the bureaus (lit. *bureau chief*), one legal member (whose business it is to draw up proposals for social legislation), and two *socialfullmäktige*, "social deputies", one representing the employers' interest, the other the workmen's interest.

The Social Board has attached to it an advisory body called *Sociala rådet*, Social Council, composed of employers, workers, and others possessing expert knowledge of the matters in hand. The duties of this Council are to pronounce on, and bring forward proposals on matters coming up before it for consideration, and in general to supply the Board with information and practical suggestions. The Council consists for the present of four sections, namely (1) for the protection of labourers and labour questions in general; (2) for labour exchange; (3) for social statistics; (4) for the sick-benefit system. Moreover, as long as the Board is the supervisory authority for pension societies, the Council shall contain a section for such societies.

The organiser and first director of the Social Board is *Dr H. Elmquist*, who conducted the statistical investigations of labour from 1898 to 1902, and afterwards superintended the Labour Statistics Bureau of the Board of Trade.

In the accomplishment of certain of these duties (protection of workers, social statistics, etc.), the Social Board is assisted by certain *local* authorities and representatives, subordinate to it. Subordinate to the Board are also the *State conciliators* in labour disputes, and the public *labour exchanges.*

Riksförsäkringsanstalten, The State Insurance Office. As has been stated above (see: Accident Insurance), a State Accident Insurance office, *Riksförsäkringsanstalten,* was established in 1903 as a consequence of the issue of the Workmen's Compensation Act of 1901. The object of this Office is to relieve employers, by voluntary insurance, from their legal liability in cases of accidents incurred, by their workmen in the course of their employment. This Office has in course of time devolved upon it certain other duties of a similar nature, such as the voluntary insurance of workmen against accidents incurred out of working hours (1908), the accident insurance of fishermen (1909), and the award and compensation for disablement and disease incurred in military service (1910); besides which the Office administers the *Midwives' Pension Fund* (1905).

The Office is governed by a director and three members, one of whom is concerned with matters of compensation for accident, another deals with matters of insurance technique and statistics, while the third acts as secretary and deputy. A superintendent physician is attached to the Office.

The following data will show the development of the Office. 32 091 workmen were, approximately reckoned, *collectively insured* in 1903, and 108 347 in 1912. In these same two years the number of casualties reported was 135 and 7 621 respecti-

vely, and the sums paid out by way of compensation were 7 670, as against 496 355, kronor, namely 2 559 and 201 390 kronor by way of sick-relief, 4 811 and 287 588 kronor in the form of annuities (disablement and death), 300 and 3 840 kronor as funeral relief; besides which in 1912 3 537 kronor were paid in capital amounts. Statements according to § 15 of the Workmen's Compensation Act of 1901 have been delivered in 1903 and 1912 in 25 and 401 cases respectively. The assets and liabilities of the Institution balanced in 1903 at 319 145 kronor, and in 1912 at 5 279 917 kronor.

The number of *fishermen* insured was 1 001 in 1909 and 1 363 in 1912. During the four years in which this form of State insurance has been in existence, 207 casualties have been reported, including 10 deaths.

During the years from 1910 to 1912 application has been made in 416 cases for compensation for disablement or disease incurred in military service, and during the same period a total of 47 896 kronor has been paid by way of such compensation.

Finally, as regards the *Midwives' Pension Fund*, its members numbered in 1905 469 and in 1912 1 835 persons; the pensions paid totalled 666 kronor in 1909 and 6 420 kronor in 1912.

The insurance fees are collected and administered by the *Post-Office Savings-Bank*, through which the payment of compensations, life annuities, and pensions is also effectuated. At the end of the year 1912 390 persons in 377 places in Sweden acted as the *local* agents of the State Insurance Office.

The administrative expenses of the State Insurance Office, which are not covered by the profit made on its business, but are met by State monies appropriated expressly to this purpose, amounted in 1903 to 67 478 and in 1912 to 149 337 kronor. To this falls to be added, however, the expenditure incurred by of the Post-Office Savings-Bank for this insurance business, being 6 587 kronor in 1903 and 15 329 kronor in 1912. The administrative expenses relating to compensation for disablement incurred in military service, and in the administration of the Midwives' Pension Fund are defrayed by special grants, and amounted in 1912 for the State Insurance Office to 3 302 and 7 128 kronor respectively

Pensionsstyrelsen. The Riksdag of 1913 resolved on the establishment of a central Government office for "pension insurance", designated *Pensionsstyrelsen*, the Pensions Board. Its organization has recently been completed (cf. Old Age and Invalidity Insurance).

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2. The Woman Question.

As far as efforts to improve the position of woman are concerned, Sweden stands in the front rank among European countries. The reason of this may be partly that, in Sweden, even from remotest times, woman has enjoyed a relatively great respect. This is due to the fact that the teutonic conception of freedom, formed on a sense of responsibility, has survived in Sweden, without any influence from Roman law. But probably a contributory cause will be — as we previously pointed out — a most uncommon preponderance of women in the country; in consequence of this the question of single women's possibilities of self-support became

of actual importance at an early period. A peculiarity of the women's movement in Scandinavia is that, while it otherwise sprang from the middle-class liberalism of the 19th century and from Rousseau's theories, it is here so closely associated with literary tendencies (Fredrika Bremer, Camilla Collet, and later, Strindberg, Björnson, Ibsen and Brandes).

Fredrika Bremer.

Even if in bygone times both law and custom to a certain degree secured the position of woman, nevertheless the decisive reforms in this respect belong to our own age. These were carried through at first by men of liberal ideas, e. g. J. G. Richert, and L. J. Hierta, without any aid from any organized woman's movement. Swedish women have, since 1845, possessed the same *rights of inheritance* as men, and since 1863, an unmarried woman has *legal status*. At first she attained her majority at the age of 25; but, since 1884, at 21, or the same age as is the case with men. A widow or a divorced woman is considered to have attained her majority whatever her age may be.

The position of a *married* woman continues to be less favourable. She is still subjected to the guardianship of her husband and is thus, actually, a minor. The husband has, in most cases, the right to administer her property. However, according to the law of 1874, this right is so far restricted that the wife can, by means of a "provision" drawn up prior to her marriage, obtain the right

of personally administering her own property, or a certain part of it; she has this right, likewise, with regard to anything that, under the same conditions, comes to her by way of inheritance or gift. The same condition applies to what she acquires through her own work. By the law of 1898, the husband's right to dispose of *real* property belonging to his wife was, moreover, in certain respects curtailed; and the wife's liability for her husband's debts contracted after marriage, has been limited; besides which the wife has been provided with greater facilities than previously for obtaining a settlement of property (boskillnad), and by that means the right to manage her own property. A new marriage law is now being worked out, by the Law-Drafting Board, which has also called in women experts for certain of these questions.

During the last few decades an important revolution has taken place in woman's *sphere of work*. Woman's work, which formerly found ample field in the manifold occupations of the household, became superfluous in many places, owing to the development of industries which enabled such work to be executed far cheaper at factories. The problem which then became more and more pressing, was how to utilize otherwise the working-power thus set free. With regard to women of the lower classes, this was easy enough, on account of the situations offered them at the factories. Again, with regard to the upper classes, a special *training* was obviously required for new fields of labour, and opportunities in this direction have also been afforded on a large scale during the last fifty years.

A great number of Secondary Schools for girls have been established privately and with the aid of considerable State grants, and the State itself supports (since 1861) a Training College for lady-teachers at these schools and several Training Colleges for female teachers at elementary schools. In 1856, women obtained admission to the conservatoire of the Academy of Music, and in 1866 to the one at the Academy of Arts. In 1870, the Universities were thrown open to females, and during the period 1870—1913, 2 653 women in all have matriculated. In 1870, women obtained the right to pass through the Faculty of Medicine; in 1873, they were privileged to pass all university examinations (except in theology and the doctorate in jurisprudence), and at present Sweden possesses 16 lady Doctors of Philosophy, and 40 lady Doctors of Medicine in practice, as well as 3 Bachelors of Divinity and 4 of Law. A lady Doctor of Law (by special dispensation), Elsa Eschelsson, was docent on civil law at the University of Uppsala from 1897 till her death in 1911, and during that time she wrote comprehensive and scholarly works. At present there is at Uppsala a lady docent in Physics, and another at Lund in the History of Literature, and a Swedish lady lectures on Early English at Cambridge. Incidentally it may be mentioned that the Stockholm University was the first in Europe to appoint a woman professor (Mrs Kovalevski). Unmarried women obtained admission in 1903 to the staff of Town Medical Officers, to appointments as assistant doctors in infirmaries, hospitals and health resorts, and to the lower offices connected with the Faculty of Medicine. In 1909 an amending law was passed altering § 28 of the Constitution and allowing women to occupy medical posts and take teaching appointments at State educational establishments, but not as teachers in theology at universities; and, finally women were admitted to other posts in institutions providing instruction in science, sloyd-work and fine art. Special legislation for every special case has however not yet been effected. — Since 1864 women have been admitted to the Central Gymnastic Institute. In the Postal and Telegraph services women have received appointments since 1863, and in the Railway service

since 1869. The number of women in libraries, banks, counting-houses, and Government offices is largely on the increase, and in the ranks of elementary school teachers women form a constantly increasing majority. For the training of sick-nurses a most extensive work has been carried on in recent years, about which see under the heading Hygiene and Care of the Sick.

Unmarried women and, under certain conditions, married women too since 1846 and 1864, have the right to carry on trade and manufactures, mechanical work, and other trades; since 1900 women have been forbidden by law to work in mines or quarries underground, or to take part in industrial labour within six weeks after child birth. A prohibition was issued in 1909 against night work for women in factories, between the hours of 10 and 5.

Swedish women develop a considerable activity in *charity work*, as, e. g. within the Charity Organization Society, founded and directed by a woman, Mrs Agda Montelius, and the Association for children's workshops, as well as within protection societies and those that look after public morality etc.

Women themselves have considerably contributed to the, by no means inconsiderable results achieved in the sphere of the "Woman Question" by means of an energetic and many-sided agitation. During 1873—96, the *Society for vindicating the proprietary rights of married women* worked assiduously to improve the position of woman. In 1896, the *Swedish Women's National Council* was founded, by means of which Swedish agitation to promote the interests of woman has put itself into communication with corresponding agitation in other countries; for this society constitutes the Swedish section of the International Council of Women, founded in 1888, which now works in 25 countries and numbers 7 to 8 million members.

Swedish Women's National Council has for its object the promoting of collaboration between societies, the Boards of which admit female members. Hitherto associations with a total number of more than 39 000 members have joined the league, amongst which may be mentioned: the Fredrika Bremer Society (see below), the Friends of Art Needle-work, the Charity Organization Society, Swedish Women's League for National Defence, The White Ribbon Union, W. C. T. U., Swedish Women's General Society for the Prevention of Cruelty to Animals, etc. The Council represents Sweden at the quinquennial congresses held by the International Council of Women.

At present, the activity for improving the position of women is chiefly concentrated in the *Fredrika Bremer Society* which derives its name from the illustrious lady novelist, who was one of the first to agitate for the fuller emancipation of women in Sweden. Among the founders of this Society is foremost to be mentioned Mrs *S. Adlersparre* (1823—95), whose nom de plume is Esselde; she may be termed the real pioneer of the women's movement in Sweden.

The programme of the Fredrika Bremer Society, founded in 1884, which is neutral in politics, is to promote "a sound and rational development of the work for the advancement of women, morally and intellectually, as well as socially and economically". The Society at present has something like 2 200 members, and is engaged on an extensive and varied field of activity. At the end of 1913, it possessed in scholarships for women studying for the learned professions or for different branches of trade a capital of 396 568 kronor. The Society also publishes a magazine of its own at first entitled "Dagny", now "Hertha", which was published in 1908—13 as a weekly journal. An earlier organ for the Woman question was the Periodical for the Home (Tidskrift för hemmet), published during 1859—85 by Mrs Adlersparre.

The Association of Women Educated at Universities has worked, since 1904 to the end that women shall enjoy the same privileges as are guaranteed to men of the same ability, so long as they have passed the qualifying tests enforced by laws and statutes. The Association for Women in Government Service was in 1912 successful in obtaining substantially better salaries for female clerks in Government service.

Women belonging to the social-democratic party have organized themselves by means of clubs, since 1898, as a political body. In 1914 there are 50 such clubs in Sweden, which send representatives every third year to a women's congress, the proceedings of which are reported in a special publication. The congress appoints for three years an "Executive Committee of the Social Democratic Congress of Women", which publishes through a sub-committee a monthly magazine "The Morning Breeze" (Morgonbris), the organ of the women's social democratic movement. In Stockholm there is to be found a separate union between the two social democratic clubs for women, the Women's Trade Union, and women in the Young People's clubs, called "The Joint Organization of Women Social Democrats". Women have organized themselves in their different callings partly by entering men's trades unions, partly by their own organizations, which, in that case, also unite with the respective social-democratic associations. Women of the social-democratic party have to a large extent joined the temperance organizations, and take a large share in various kinds of work within women's cooperative guilds.

Statistics show that the position of Swedish women is, on the whole, rather favourable. One testimony, foremost of all, is the *longevity* of Swedish women, which is the greatest observed in any country except Norway, and, especially during the most active years of their lives, the death-rate is low. It has also been previously pointed out, not only that frequency of crime has generally decreased amongst the female population of Sweden (excepting for a slight increase since 1900), but also that the decrease has been more marked than amongst men. — With regard to the *wages* paid for women's work, these, as in all countries, keep lower than men's, but still some approach to levelling them has been made. Thus, from 1870 to 1910 male agricultural labourers' wages have risen 284·46 %, but those of female servants in the country 409·52 %.

On the other hand, evils have appeared of late years, especially amongst the younger females. To these belong the very great increase of illegitimate births (from 11·56 % in 1900 to 14·36 % in 1910) and of suicides amongst younger women, as also the increase of mortality among younger women — this being all the more remarkable, since among women of somewhat more advanced age the change generally tends in the opposite direction. It is obvious that we here meet with the consequences of girls leaving home earlier than formerly to take situations at factories. The need of taking energetic measures for the rights and protection of this new female class of society that is arising in our own days becomes more and more obvious.

Peculiar to Scandinavia, England, and Finland is the law that entitles women, under certain conditions, to vote at *communal elections*. Even in the eighteenth century, Swedish women possessed of landed property had this privilege, which was then, however, of small importance, and

since 1862 women paying rates to the commune, vote on the same conditions as men. Since number of votes depended on the amount of taxes paid (see page 286), the women in general remained in the minority and have therefore only slightly been able to make their influence felt. Women have nevertheless acquired a real increase of influence from the new communal regulations of 1910, which lowered the graded scale and enfranchised married women on very much more favourable conditions than men and unmarried women and made women eligible for election to all communal bodies, except county councils. Formerly (since 1889) they only had a certain limited eligibility to School Boards and Boards of Guardians. Now, in 1914, there are 73 women town-councillors in Sweden.

Through their participation in communal elections the women of Sweden also elect indirectly the members of the First Chamber of the Riksdag, and, seeing that the town-councillors of the five largest cities are electors to this chamber, women councillors there exercise a direct political vote. By this means a natural starting point has been given to a movement for Woman's Suffrage, and the founding of this movement in Sweden marks the opening up of a new era in the advancement of women's right. The purely liberal demand that has principally been advocated hitherto is that unmarried women of the middleclass should be admitted to well-paid work and economic privileges, if they fulfill the requisite qualifications; starting from that point, the women's movement now advances, in Sweden as in most other civilized countries, to include the demand of political rights for all women. But at the same time emphasis is laid on women's responsibilities to the State, and on the State's need for the contributions of women towards the public weal, which has made it possible for women of all shades of opinion to join the movement. The first unions for the political suffrage of women were formed in 1902, a national organization in 1903, and in 1904 this joined the International Woman Suffrage Alliance, founded the same year in Berlin and numbering 26 countries as members. The Swedish National Woman Suffrage Union now numbers 213 local associations, of which 24 are offshoots, with 17 000 members; and these again are to be included with the Social Democratic Women, Fredrika-Bremer Society and The White Ribbon, a temperance association; an approximate total of all Swedish women organized for obtaining the political franchise is 35 000. Repeated motions on the question have been brought forward, both from the conservative and the radical sides, since 1902; and in 1906 the Riksdag requested the Government for a statistical and historical statement in full: the last part of this was laid upon the table in 1912. The question formed a plank in the social-democrat platform in 1906, and in that of the liberals in 1907. On the opposition of the First chamber, a parliamentary bill fell through in 1909 and 1914, as did a government bill in 1912, for the franchise and eligibility of women on

the same conditions as for men. While an international congress for Woman's Suffrage was held in 1911 at Stockholm, a Union of Men for the political franchise of women was set up in the same city. The organizer and leader of the National Union has been the principal of a coeducational school, Miss *Anna Whitlock*.

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3. TEMPERANCE QUESTION.

To this question Sweden has devoted close attention, especially of late years, and extensive precautionary measures have been taken. We shall now give a somewhat detailed account of the subject.

The alcohol question in Sweden, as in other countries, was in early days a matter of war against the abuse of spirits ("brännvin"). Ever since the consumption of spirits became a practice in the country, in the beginning of the 16th century, it slowly but surely extended, in spite of legislative attempts to arrest its progress. By reason of the so-called "distillation for household use", it became, at the beginning of the 19th century, a national peril, against which the Crown Prince, Karl Johan, uttered a warning as early as 1812. Under the influence of the views held by the Crown Prince — who afterwards became king — and aided by the crusade in America against alcohol, a temperance society was founded in 1830, on the initiative of C. af Forsell, director-in-chief. This was in celebration of the introduction of Christianity into Sweden 1 000 years before. In subsequent years interest in temperance quickly spread over the country. The pioneers who championed the new cause were several notable personalities of the period, e. g. Peter Wieselgren and Samuel Owen. The numerous associations formed in various parts of the country, were combined in 1837 into the Swedish Temperance Union. From there the fight against intoxicating liquors in the 'forties and 'fifties may be traced. Thus a public opinion was created which not only laid the foundation for legislative work, but also cooperated in some degree to introduce a more sober rule of life.

In the Riksdag of 1853—54 this growth of public opinion attained a permanent result. The Government brought forward, and the Estates of the realm supported, a bill to limit home-distillation, which was entirely abolished in 1860. This bill also imposed a *tax* on the finished product, all of which measures as were directed towards revolutionizing the spirit trade, so that it became a manufacture strictly controlled and heavily taxed. To this result, moreover, earlier development had already contributed by excluding the smaller promoters of the industry.

Though this taxation was remarkably severe, compared with what had previously been imposed upon the manufacture of spirits, it was soon proved desirable to increase it and so further to diminish the use of intoxicants. It must, however, be remarked that reasons of national finance more largely contributed to the repeated increases of taxation. It is now manifest that, in the interests of temperance, trust can no longer — as was once the case — be placed in such measures, as a suitable means of fighting in temperance. Besides by the tax on manufacture of spirits, the distillation has been restrained by means of a number of restrictive regulations issued in 1885 and following years.

These were directed against over-production. For instance, permission to manufacture spirits was at first only given for two months during the year. This period was then gradually extended little by little, so that manufacture for consumption is now generally allowed from October 1 to May 1 Regulations controlling the minimum and maximum of production have bene changed by different ordinances: at present they range from a minimum of 8 000 to a maximum of 600 000 liters. Special duties, over and above the normal ones, are imposed in cases where the output exceeds the maximum or falls below the minimum.

By a decision of the Riksdag in 1903, the taxes on the manufacture of intoxicants were extended also to malt liquors, and in addition a stamp-duty of 60 öre per liter was imposed on the sale of punch, and on that of arrack and rum in 1907. For every kilogram of malt used in brewing, a payment of 11 öre must be made, except for the first 200 000 kilograms turned out in the year; for the latter a lower rate of 2 to 9 öre is imposed; immunity from taxation is enjoyed by breweries which only produce small beer ("svagdricka", less than $2^1/_4$ % alkohol). By a regulation made in 1907, the malt-tax was raised to 12 öre for the production just mentioned, and again to 23 öre in 1909; nevertheless the impost on the first 100 000 kilograms turned out in the year stands at 17 öre, and the next 100 000 kilograms is charged at the rate of 20 öre.

As a result of motions introduced into the Riksdag of 1853—54, a new *regulation for sale* was produced in connection with limitations set by the regulation respecting manufacture. This was issued by the Government in the beginning of 1855. It included a large number of previous regulations, on which up till then had been based the sale of spirits; and in several respects it created new conditions for the work of temperance, by systematizing legislation. The right to sell spirit was now made dependent on permission specially granted by the governor of the län, after the responsible authorities of a commune had supported the introduction of the sale of spirits in their district. No special permission was required for the sale of spirits in quantities of 15 "kannor" (about 40 liters) at least ("wholesale trade"), or by those who already held a license, i. e., innkeepers and privileged dealers in the towns. No fresh privileges were permitted, and in accordance with a decision taken by the Riksdag in 1873, it was ordained that only innkeepers' licenses in force before 1874 could be maintained, and even those not beyond the life interest of the owner or his wife. The sale of spirits for which special permits were requisite was divided into two classes, the retail and bar trade. In the latter, the sale of the smallest quantities was allowed for consumption on or off the premises; in such cases, food must always be obtainable, and the bar trade must never be practised in conjunction with other business. In retail trade, spirit could not be sold for consumption on the spot, and the minimum to be sold and taken away was fixed at half a "kanna" (later at one liter, viz. 0·3 liter), and retail trade in the country districts could not exist in conjunction with other business. — After the decision made to allow the sale of spirits in the commune by others than those dealers who made a claim as innkeepers, freemen, or privileged persons, it was made a condition that the license should run for 3 years at most. Licenses in a town might either be sold by public auction to the bidder or bidders who undertook to pay duty on the greatest number of liters, or the sale might be handed over to a company. The granting of a spirit-license to companies in rural districts was forbidden by statute, but exceptions to this were made by the administration in the case of certain market towns. If in a town the company possessed the exclusive right of selling, then one or more of the spirit licenses taken over by the company might be transferred to private individuals. In connection with the permanent licenses just named, an occasional

bar-license might be granted for a shorter time, e. g., in camps, or wherever else bodies of soldiers were quartered for several days, at health resorts or watering places, on passenger steamers, etc. — In order to increase the cost of spirits and thus diminish their use, a certain duty was fixed for every "kanna" sold. The smallest number for which this duty was reckoned, was 800 "kannor" in a town and 400 in the country for each year of sale. Resources thus accruing from the sale were originally so divided, that towns retained direct shares of the receipts, while country communes received, in proportion to their population, shares of profits made in rural districts. Provincial agricultural societies, and after 1862 county councils as well, finally received one-tenth each of the receipts within the län.

Time after time the statute of 1855 dealing with sales, has been subjected to revision, and last in 1905, but the fundamental regulations remain unaltered. Since October 1 1914, wholesale dealing — by which was formerly understood trade in quantities of at least 250 liters — has been forbidden to all except such as propose to re-sell their purchases. At the same time the minimum for retail trade has been reduced to 0·3 of a liter, if the seller has adopted the individual control system (see below). Licenses depending on town monopolies have lately all been redeemed — the total sum paid for redemption in Stockholm alone amounts to over 2·1 million kronor. A number of innkeepers' licenses have also expired or been redeemed, so that the total of them in 1912 was reduced to 13. "Off" licenses at bars have ceased. The sale of spirits in towns must now be in the hands of "system companies", and the only license put up to auction in the country is the bar license for spirits. When the retail trade is introduced in the country, a company has to take over the sale. The introduction of the spirit trade in a country district has since 1877 been entirely subject to the decision of the Communal Meeting, and in the towns since 1895, to that of the Town Councils. Occasional licenses are no longer allowed in camps or in places where bodies of soldiers are quartered for several days. The payment for every license taken over (spirit license duty) is now fixed at 225 kronor at least, a sum which corresponds to 15 öre for the minimum unit of 1 500 liters. The receipts accruing from licenses, and the profits made by the business of companies must be divided between towns, county councils, agricultural societies, and all the communes in the kingdom, besides which one per cent of this revenue must be set aside to promote temperance and to combat the results of drunkenness. Retailing of spirits is only allowed on weekdays from 9 a. m., and closes on Saturdays and the eves of public holidays at 5 p. m.; on other days at 7 p. m., at latest. The earliest time for the bar-trade in spirits is 9 a. m., and in cities and market towns usually ceases at 10 p. m., and in the country at 8 p. m. On Sundays and public holidays bars must always be closed during church-time; and spirits are generally only allowed to be served at other times to customers at meals. When special circumstances require a reduction or extension in the time of serving liquor, the governor of the län issues instructions on the representation of the authorities in the commune.

A peculiarity of the Swedish spirit trade is the monopoly entrusted to companies. As far as is known, the company-system was first introduced at Falun in 1850, but it has got its name of the "Gothenburg system" from the town where it was really developed in the seventies. The ruling principle is that the spirit trade shall be exclusively practised in the interests of morality, and shall not provide the shareholders of a company with profits exceeding 5 % on the capital subscribed. The whole of the profits beyond that shall be devoted to public uses, and divided in the manner described above. From the restrictions imposed by the Gothenburg system, a diminution in the consumption of spirits

has undoubtedly resulted, at any rate in those parts where the system has been applied with a sense of responsibility. It is an open question, on the contrary, how far the system may in general be credited with the increase in sobriety, which is the aim of these companies. And opinions on the point are distinctly at variance. If the system is to perform its function, a watchful public is necessary, and a lively feeling of responsibility among the communal authorities and the directors of the companies; where these conditions are not prevalent, abuse has frequently resulted, especially in smaller communities. The less severe application of the leading principles in the system has indeed been promoted by the direct participation of towns in the companies' profits; so that precautions, intended appreciably to diminish the consumption of liquors, have in various places been opposed, or at least viewed with unfavourable eyes. In the matter of the bar trade in spirits, however, the system has effected a practically universal improvement; this has been done by the establishment of respectable public-houses where good and cheap meals are served and where the quantity of spirits served is limited. The retail trade, on the other hand, shows no improvement, because the restrictions laid on the bar trade have induced spirit consumers to provide themselves by means of the retail trade. The consequence has been increased drunkenness in the home and in the streets. These conditions, however, have received increasingly great attention from the public in recent times. Certain firms have ceased to supply spirits to persons known to be habitual drunkards. "Black lists" have developed from this system, and result from a proposal, brought forward a few years back, that no company may sell without a knowledge of to whom, when, and in what quantity drink is served, and that it should only be sold under the personal responsibility of the customer. The public has a keener perception that reform in the retail trade is requisite in the direction indicated. Such a reform ("System *Andrée*") has been effected by the Gothenburg company since October 1912, to the extent *that* the purchase of spirits by retail is only possible for those who possess personal certificates of permission to buy; *that* such certificates are unobtainable by certain persons, e. g. those who have been convicted of drunkenness, those who have become a burden to the rates through the abuse of alcohol, those who have committed crime in a drunken condition, etc.; and *that* certificates shall be forfeited by purchasers who have misused spirits, or exceeded the maximum allowed by the company; control in these respects is facilitated by the company's possessing on each certificate an account of the quantity of spirit bought. The same principles are maintained in the "Stockholm system", founded by Dr *Bratt*, which applies to the capital from 1914 inclusive. The Stockholm company retails only a certain quantity of spirit quarterly to each individual, and it is only delivered on the presentation of a "pass book" or "customers' book" (motbok). Consumption of spirits has also been combated by limiting to a definite maximum the profits of private restaurant keepers, so that they have no interest in increased consumption. At the same time, the system of individual control is to be introduced during 1915, in a large number of other places, and the State has supported the introduction of similar regulations by a change in the law, effected in 1914. The result of this will be that, upon application to the Government, a company that has introduced the system of individual control can be allotted a control-area, into which companies and private dealers belonging to other places cannot introduce spirituous liquors.

Some flaws may be imputed to the Gothenburg system. Among these defects we may especially cite the absence of central control of the system's operations, the lack of regulated standard prices for sale and purchase, and of regulation as to alcoholic strength (such regulations would largely forestall competition between companies); the lack of completeness in establishing the monopoly system, a

defect which entrusts bar and retail licenses to private persons, side by side with similar privileges enjoyed by companies.

In addition to the more general limitations afore mentioned, a multitude of detailed instructions deal with the sale of spirits; besides which further restrictions may be imposed by local authorities and by companies.

The sale of wines and beer has long been an object of legislation. Regulations were first comprehended into one statute, however, in 1866, and permission to serve these drinks was then subjected, as a general rule, to the governors of the läns. New restrictions were imposed on this trade, in the interests of temperance, by fresh regulations issued in 1874 and 1885. Thus, bars could only be set up for a specified time, and by the governor's permission, and never without the consent (in towns) of magistracy and Town Council and in rural districts of Communal Board and Communal Meeting. The regulation now in operation dates from 1905. By this the sale is of two kinds, bar trade and retail trade. No special permission is needed by those who hold a spirit license, nor by innkeepers (when serving food with drink to travellers), nor by those who board paying guests in their homes privately. But for all others special permission must be obtained to serve wine and beer. "Permanent licenses to sell" are issued for one or more, but not more than three, calendar years, and usually imply the right of retailing wines and beer. These are granted by the governor of the län, but no application is considered except on the approval of the local authorities (see above). The governor may, moreover, permit bar licenses at railway stations, health resorts or watering places, on passenger steamers, or in other places where bar trading may be desirable. Retail trade of wine and beer may be practised without permission by those who enjoy the right to manufacture wine or beer, but then only at the place of manufacture, and by those who are entitled to retail spirits. "Off licenses" to sell wine and beer are granted by the governor, but not when an application is not approved by the local authorities. The manufacturer may send round wine and beer for sale without permission within the specified boundaries of a town (planlagda området), and outside them with the consent of the governor: in the country such sale is prohibited. Restrictions attending the times during which wine and beer may be sold, and statutes, regulations etc., are to a large extent the same as those established for the spirit trade.

After the passage of legislation concerning spirits in 1855, the temperance agitation rapidly abated, and the movement did not re-awaken to fresh life until at the end of the seventies: but the forms and principles were now changed. This time, as in the twenties, the impulse was derived from America, but the work of the movement was now principally effected by means of various temperance orders. It devotes its efforts to securing the prohibition of the manufacture, importation, or sale of alcoholic drinks. The *International Order of Good Templars* (I. O. G. T.) occupies the foremost position among temperance associations; this is due to its large membership and strong organization. It was founded in America in 1852, and passed from England into Sweden in 1879. In 1913 there were 2 412 sublodges, for senior members, and 1 020 junior lodges in Sweden. A temple of the Order is to be found in many places in the country, and an association of self-help is instituted among its members. Almost on identical principles the *Order of Templars* is at work, founded in America in 1833 and introduced into Sweden in 1884. The order possessed 950 local temples and 164 children's temples in 1912. *The National Order of Good Templars* (N. G. T. O.) was formed in 1888 from lodges that broke away from the Good Templars. It consisted of 710 sublodges and 151 children's temples in 1913. The *Verdandi Order of Temperance* (N. O. V.) was founded in Stockholm in 1896 by members who left the Good Templars, and maintained 377 lodges and

75 children s lodges in Sweden in 1913. The *Blue Ribbon Union of Sweden* (B. B.), which was the latest to come from England (1883) has a more religious tendency. It had, in 1912, 1 491 local associations for seniors, and 400 for children — "The Band of Hope". The *White Ribbon* was established in the United States in 1874 and was introduced into Sweden in 1900: it had 112 local branches in Sweden in 1912. *The Teetotal Alliance for the Young Students of Sweden* (S. S. U. H.) was founded in 1896 and now comprises 222 branches at universities, high schools, secondary schools, training colleges, people's high schools, and so forth. Besides those just named, a number of independent smaller temperance unions exist; e. g., The Railwaymen's Teetotal Alliance, The Swedish Teachers' Temperance Association; Temperance Association for Swedish Physicians; Swedish Officers' T. A.; Swedish Policemen's T. A.; with several other associations for trades and professions; the Temperance Army; Swedish Women's Christian T. A.; Jönköping Län T. A.; Medelpad T. A., etc.

The seven larger temperance societies send representatives to the Convention of Temperance Societies in Sweden, which composes the executive directorate of the Swedish temperance movement, and which has an information office supported by the State. The larger societies have combined also into a central union for temperance instruction, which enjoys a State grant: by it are arranged annually several courses of temperance instruction in various districts: it provides speakers and lecturers, and supplies material for instruction in the temperance question.

The original Swedish Temperance Union, founded in 1837, was re-organized in 1902 into The Swedish Society for Temperance and popular Education; it undertook to labour for a temperate, moral and healthy mode of life, by publishing and distributing tracts, organizing lectures, and creating good literature of an enlightening character. Though only numbering 50 ordinary members, it possesses considerable funds and enjoys State-grants.

The number of members in the larger Societies of Temperance in 1895, 1900, 1905, and 1912 is to be seen from Table 80.

Seeing that the same individuals are at times members of both the junior and senior divisions, and that the figures given relate to both, there is considerable overlapping. It also occurs, though less often, that the same person belongs to more than one organization, and so the number of teetotallers comprised in the larger societies should be set a good deal lower; as far as concerns 1912 presumably between 30 000 and 40 000 lower.

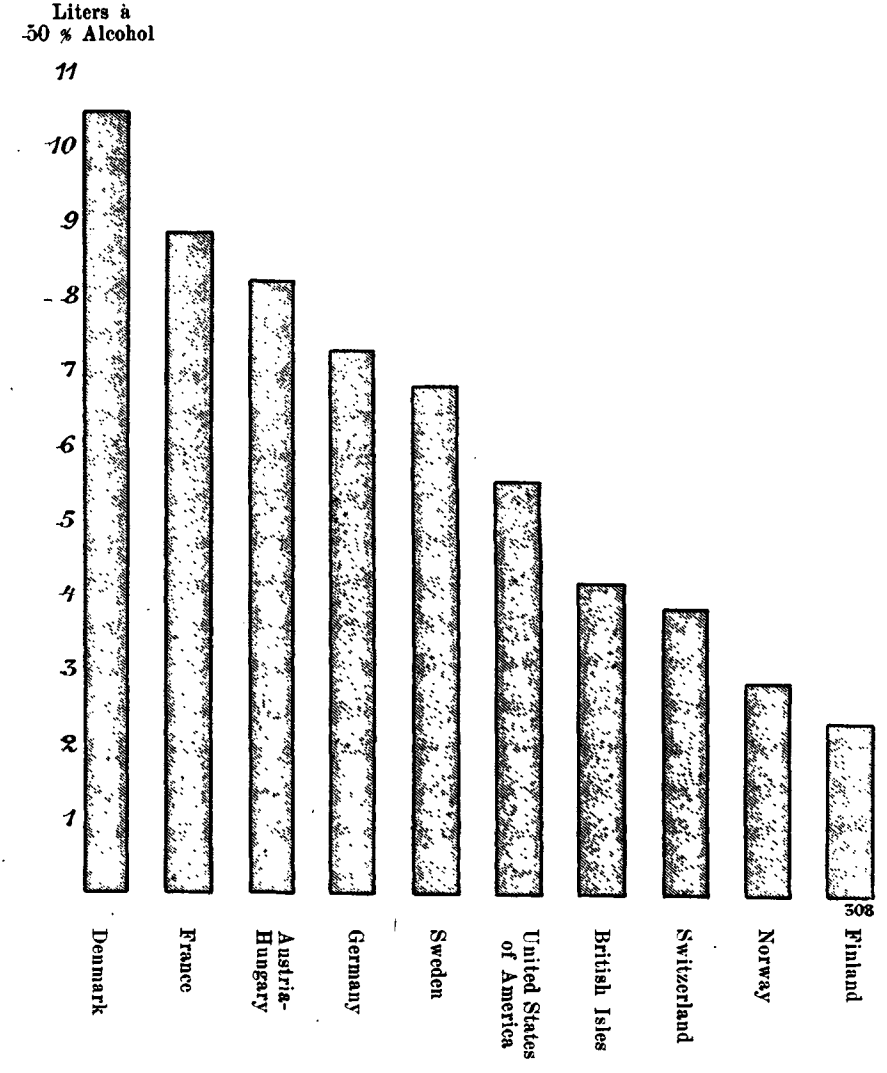
In organizations other than those here mentioned there were about 20 000 members in 1912.

Several dissenting religious bodies, such as the Methodists and the Salvation Army, require their members to abstain from intoxicants; the number, therefore,

TABLE 80. *Membership of some larger Societies of Temperance in Sweden.*

	1895	1900	1905	1912
Order of Good Templars	75 793	113 361	180 241	222 531
» » Templars	32 200	39 724	50 346	54 955
National Order of Good Templar	22 262	27 380	31 397	42 572
Verdandi	—	2 732	13 099	23 803
Blue Ribbon	71 313	75 000	85 300	105 236
Young Students Alliance	—	700	8 180	9 676
White Ribbon	—	—	2 600	5 903
Total	201 568	258 897	371 163	464 676

Yearly Consumption of Spirits per Inhabitant, 1906—10.



of teetotallers attached to temperance organizations and religious bodies can be assumed with certainty to be somewhat over half-a-million. Those who belong to no organization cannot be computed, but they are likely to be not inconsiderable in number.

The consumption of intoxicants in Sweden during the first half of the 19th century must have been very great but, as we have said already, no reliable returns are available. Nevertheless, since 1855 we have, thanks to the control over spirit distilleries, quite reliable reports on the consumption of spirits. No really reliable information is at hand concerning the consumption of beer before the middle of the 'nineties, when trade statistics began to be compiled, and these furnish a more complete basis of calculation. Control over malt liquors was introduced on Oct. 1st, 1903, and this enables as to estimate quite exactly the consumption of beer since 1904.

TABLE 81. *Consumption of Spirits (Liters à 50 %) and Beer in Sweden.*

Annual (by calendar year or official year)	Spirits ("brännvin")		Beer		Sentenced for drunkenness	
	Total in hl	Liters per inhab.	Total in hl	Liters per inhab.	Total	Per million of mean population of penal majority (18 years)
1856—60	350 000	9·5	—	—	—	—
1861—65	426 357	10·7	—	8·3	—	—
1866—70	370 057	8·9			8 726	3 183·3
1871—75	505 562	11·8	—	12·6	14 154	5 015·6
1876—80	454 515	10·1			20 426	6 781·2
1881—85	369 364	8·0	—	16·4	19 759	6 386·0
1886—90	338 308	7·1			22 070	6 959·0
1891—95	322 405	6·7	—	20·7	26 745	8 281·8
1896—00	404 349	8·0	1 306 930	26·0	38 557	11 389·3
1901	445 389	8·7	1 409 490	27·3	41 667	
1902	406 197	7·8	1 361 560	26·2	40 893	
1903	389 050	7·5	1 396 920	26·8	41 538	12 108·2
1904 (1903/04)	368 070	7·0	1 404 878	27·0	42 564	
1905 (1904/05)	373 147	7·1	1 532 061	29·1	47 491	
1906 (1905/06)	393 616	7·3	1 495 115	28·2	47 629	
1907 (1906/07)	396 568	7·4	1 478 904	27·7	49 430	
1908 (1907/08)	360 248	6·6	1 428 472	26·6	50 546	13 669·3
1909 (1908/09)	329 318	6·1	1 319 763	24·3	50 322	
1910 (1909/10)	362 739	6·6	1 053 671	19·3	54 845	
1911 (1910/11)	368 805	6·6	1 135 194	20·6	50 972	
1912 (1911/12)	381 297	6·8	1 093 478	19·7	56 622	
1913 (1912/13)	381 289	6·7	1 156 391	20·6	—	

Table 81 shows that the consumption of spirits reached its maximum during the first half of the 'seventies, when prosperous economic conditions prevailed. In the latter half of the same decade and in the 'eighties, a sudden fall occurred, and this is probably connected with a decline in prosperity. During the 'nineties great prosperity produced a fresh increase, and in 1901 the consumption rose to 8·7 liters. From 1900—1910 it fell by 2 liters per inhabitant, and since then the figure has been fairly constant at about 6½ liters.

One of the reasons may be sought in conditions that were created by the 1905 statute dealing with the sale of spirits.

Touching the consumption of beer, the figures given above (up to and including 1891—95), are based upon valuations and calculations more or less uncertain. This much is, however, certain: it was decidedly on the increase in the latter part of the 19th century. Returns for 1896—1903, taken from trade statistics, are, nevertheless, too low, when compared with figures derived from the reports of the Board of Control for 1904 and since, because they do not include the consumption of lager- and pilsenerdricka (small beers with more than 2¼ % and less than 3·6 % alkohol), and these are now reckoned among dutiable malt liquors. The consumption of beers liable to duty has appreciably diminished; this is due — among other things — to the combined influence of the statute of 1905 respecting the sale of wine and beer, and the regulations made in 1903, 1907, and 1909 concerning the taxation of malt.

The use of natural wines in Sweden is of no considerable extent — about 0·5 liter annually per inhabitant. For a succession of years this has been pretty regular. But the consumption of artificial wines has apparently increased. However the quantity cannot be recorded, but a very considerable quota is probably included in the estimate of spirit consumption.

Whereas the consumption of intoxicants in Sweden may thus be said to have decreased, the number of drunkenness cases is found to be considerably increas-

ing from year to year (see Table 81). The chief reason to be assigned for this is a more general and more emphatic prosecution of offenders; and the fact that the increase in population among towns and communities similar to towns, (where police supervision is regulated) advances more rapidly than in purely rural districts. But also another circumstance may be considered of great importance, namely, the increase of consumption is not properly expressed by when reckoned out per inhabitant; in the case of the same consumption per individual, an increase in the number of non-consumers may thus imply an increase of consumption among consumers. It is, therefore, far from impossible, that the consumption of intoxicants, reckoned per individual of the consuming portion of the population, may have increased, and thereby as a natural consequence, the number of persons sentenced for drunkenness may have gone up. The concentration of the spirit trade in towns may also have had the effect of causing a rise in the number of persons from rural districts who have been sentenced in towns for drunkenness.

Licenses for the sale of spirits in *towns* amounted during 1855—56 to 584 for retail and 1 170 for bar trade. In 1911 the former were 251, of which 100 were assigned licenses; the latter 516, of which 296 were assigned licenses. The proportion of inhabitants to permanent licenses (retail and permanent bar licenses) was 584 in 1875, 821 in 1885, 1 149 in 1895, 1 469 in 1905, and 1 553 in 1910. There is now, in 1915, no sale of spirits in six towns, Säter, Gränna, Tidaholm, Nässjö, Huskvarna, and Luleå.

In the country there were 64 places for retail and 493 for bar trade in 1855—56; the corresponding numbers of places for the sale of spirits in 1911 were 33 and 53 respectively.

The number of licenses therefore has diminished in a very striking measure in spite of the rise of population. The importance of this diminution comes out with special clearness in the rural parts, when one considers how many inhabitants there are on an average for every permanent license, viz. 10 357 in 1875, 17 251 in 1885, 25 283 in 1895, 34 919 in 1905, and 56 052 in 1910. In 1911 the Malmöhus Län accounted for 31 licenses in country districts, Stockholm Län 15, Kristianstad Län 13; there were 12 läns in which there were no licenses in the country districts.

Nevertheless this "drainage" of the rural parts, as it is called, does not imply that persons dwelling in the country are shut off from all possibilities of obtaining spirits. Thanks to improved means of communication, rural inhabitants can easily provide themselves with spirit either upon application to the companies in the towns, or by immediate purchase there: by this means this huge decrease in licenses to sell has not been accompanied by a proportionate increase of temperance in country communes.

The sale of wine and beer is closely concentrated in the towns. There were in 1911 no less than 4 023 places provided with "off" licenses in wine and beer, and of these Stockholm alone included 1 768; 729 for wine alone, and 471 of beer alone. There were besides 140 producers, of whom 130 were brewers of beer. In the same year the number of places with "on and off" licenses were: 585 for the sale of wine and beer; 36 of wine alone, 517 of beer alone. At 13 railway stations alcoholic liquors were served. In addition 16 innkeepers held licenses to serve beer.

In the country the number of licenses for the "off" sale of wine and beer was only 59 in 1909, 130 of wine alone, 74 of beer alone. The number of producers was 83, of whom 80 were brewers of beer. The bar trade alone in wine and beer was plied in 202 places, in 2 for wine alone, and in 121 for beer alone, besides which alcoholic liquors were served at 49 railway-station buffets. Finally no less than 728 innkeepers were to be found in rural districts provided with beer licenses

Beyond the permanent beer licenses just mentioned, there were 956 occasional wine and beer licenses, 125 in the towns and 768 in rural districts; also there were 88 personal licenses, of which 76 were in the towns and 12 in rural districts. The number of persons sentenced for transgressing the regulations for the sale of spirits, amounted to 620 in 1911, of whom only 129 were in Stockholm, and 699 for offences against the regulations for the sale of wine and beer.

Only one or two official enquiries as to the social effects of the consumption of alcohol have been made. The annual reports of The Board of Prisons respecting the influence of intoxicants upon crime supply information based on returns made by prison chaplains. The number of prisoners admitted in 1911, who committed crimes under the influence of drink or were addicted to drink before their crimes, amounted to 1 135 males and 36 females sentenced to hard labour and 484 males and 8 females sentenced to imprisonment; that is 71·7, 25·5, 54·7, and 21·1 % of the total of new admissions in the various classes. One of the features of the investigations of the so-called Temperance Committee (see below) was an enquiry respecting the effects of alcohol on the amount of poor relief granted. This proved among other things that, in Stockholm during the first quarter of 1911, of poor relief granted to minors about 30 % of the whole was principally traceable to the abuse of alcohol; and of poor relief given to families about 19 % was necessary from the same cause.

The public derives considerable revenue from taxation on the manufacture and sale of intoxicants. In 1911 the Treasury received about 21 million kronor on spirit tax about 5 million on malt tax, about 1·7 million on punch stampduty, and about 5·2 million for import duties on wine, spirits, and malt liquors. The profits from sales the same year were distributed as follows: 9·5 million to towns, 3·6 million to country communes, 3·3 to county councils, and 2·4 to agricultural societies: over and above this, 190 000 kronor were set aside for the promotion of temperance and the combating of the consequences of drunkenness.

The need for radical measures against the use of intoxicants has made itself more and more strongly felt in the last decade. The idea of total prohibition seems especially to have gained adherents. Under the impression of the good effects resulting from prohibition during the great labour struggles of 1909, the representative convention of the temperance societies arranged for a vote on the question of prohibition; in this no less than 1 884 337 men and women over 18 years of age voted in its favour; this means 55·6 % of the total inhabitants of or above that age; 1 440 151, or 56·2 % were in the country, and 444 186, or 53·7 % in the towns. A Royal Temperance Committee was appointed in November 1911 to prepare a measure for so-called "local veto", to frame a proposal for necessary reforms, and to deal with the question of total prohibition. This committee, in the beginning of 1914, issued proposals for a radical reform of existing conditions. After these proposals had been worked through and in many respects modified by the Government, a proposal for legislation in the matter of the sale of alcoholic liquors was formulated for the later session of the 1914 Riksdag. It was not found possible, however, to reach an agreement, for which reason the proposed legislation fell through.

Two important temperance questions obtained their solution in the Riksdag of 1913, namely in the abolition of the *public interest* in the re-

ceipts from the intoxicants, and the compulsory detention of *habitual drunkards.*

So far as the first point is concerned, the gist of the Riksdag's resolution is that all *profits derived from the sale of spirits* (by the "system companies") shall accrue to the State. The towns receive instead annual subsidies, which decrease in amount and cease in 1935. County Councils and agricultural societies are compensated by certain annual payments, and all communes obtain increased contributions to the salaries of the teachers in elementary schools. With the purpose of limiting the dependence of the State, the Riksdag decided to establish a certain payment, 41·9 millions of kronor to be used on behalf of the Government out of the amount devolving to the Treasury from all intoxicating liquor revenue (except customs). Any excess beyond this must be sunk in a special fund (cf. State Finances), intended chiefly to be used for the ordering of the economic conditions which result from the more stringent safeguards taken towards limiting or reducing traffic in intoxicants. The maximum payment just named shall be automatically reduced from time to time, if during three successive years it exceeds the average revenue from intoxicants to the Treasury.

It has long been a purpose aimed at in Sweden to introduce the *compulsory detention,* of persons addicted to drink, in establishments set apart for the care of such cases. This question was solved in the Act passed in 1913. In accordance with the new legislation, which first comes into operation when a suitable number of such establishments are ready, the governor of the län may, on the representation of the Temperance Board of a commune, order the admission into an inebriates' home of such persons as are addicted to drink and therefore set their own lives or the personal safety of others in danger or else expose their wives and children — for whose maintenance they are responsible — to poverty or open neglect, or fall a burden on the poor rates, or on their families. Such a person, however, cannot be admitted to an institution before he has obtained a hearing in the matter of the application, nor before the governor's order for his admittance has obtained legal sanction. Nevertheless, if an occasion arises to show that the applicant is dangerous to the safety of others or to his own life, he can be dealt with till further notice without a hearing. Public institutions for the care of inebriates shall be either furnished by the State, or by the county council, commune, society, foundation, or some other authority controlling homes founded for the said purpose, and acknowledged by government to be public institutions. A person admitted to such an institution may be detained for one year, and, if he has previously been an inmate of a home for 6 months at least, he may be detained for two years. Discharge may, however, be granted sooner, if there is reason to expect that he will afterwards behave with sobriety and decency.

As will be realized from the above sketch, Sweden has achieved a considerable contribution to temperance work. To mention by name the individuals who have done good service in the movement would carry us too far; we may, however, recall the fact that, since 1905, the position of International Chief Templar has been filled by the Swede, *Edvard Wawrinsky.*

4. OTHER SOCIAL MOVEMENTS.

As already intimated in the preface to the chapter "Social Movements", it has been deamed advisable to present in one section a number of accounts of social activity of very diversified types. A general survey of these movements has been rendered in the foregoing pages, but with regard to certain of them, a somewhat more detailed description would seem to be justified. Hence a somewhat full treatment has been accorded below to certain social movements which intrinsically have no intimate cohesion with one another.

Care of the Needy and Destitute.

The oldest forms of social work are undoubtedly those that aim at relieving want, caring for the sick poor, and taking charge of destitute children. A description has already been given of public *poor relief* and of *private charities*. By means of the *old age and invalidity insurance scheme* recently adopted (see article) and the expected new poor law legislation, it may presumed that important changes will be made in these departments.

We have previously touched upon the comprehensive measures which have been taken on behalf of the *blind, deaf-mutes,* and others afflicted with infirmities. An account has also been given of the treatment of *idiots* and *lunatics,* as also of the present magnificent means of combatting *consumption* and *disablement*. In another department of human suffering, as has been shown, the fight has been taken up — in the *social rescue* work for such as have sunk under vice and misfortune. And finally some observations have been made on *child protection* in our own day. We shall now, in concluding the subject, merely refer to some *typical enterprises for the care of the poor and of children,* and thus indicate the direction of modern endeavours in these respects.

The *public care of children* is at present managed by several different authorities — the poor law guardians, the board for the care of children (the morally neglected and degenerate) and the board for the care of foster children. This dispersion of effort has not benefited the work. It has occasioned gaps in the rendering of aid and lessened the sense of responsibility. It may, therefore, be expected that, in the legislation now imminent, work and responsibility for the care of children may devolve on one single authority. Meanwhile, local efforts in this direction have already appeared. For instance, a *municipal bureau for the care of children* has been organized at Gothenburg, with the duty of receiving and investigating cases of all kinds, in order to allot them to the authorities to which they belong. Before this bureau came into being in 1912, the *bureau for the care of children of the Swedish Poor Law Reform Association,* had been at work in Stockholm for several years. This bureau, which now enjoys municipal support, aims at procuring co-operation between all the scattered undertakings for the

care of children, distributes information upon care of children and strives to prevent and punish child-neglect. A great development has attended this activity.

The lack of one common authority for information and control over the whole country being widely felt, the *means for consultation in the care of children* has come into being, through the Poor Law Reform Association, with the help of a subsidy from the State. As the name implies, the object is purely to afford information, and its necessity is obvious from the increasing demand for information in organizing enterprises of every kind for the care of children.

It is characteristic of the present work for the care of children that as much as possible parents are provided with opportunities for looking after and bringing up their own children. This applies even to illegitimates. While these used to be separated from their mothers and taken in hand by boards of guardians or by homes, the present endeavour, on the contrary, is to strengthen the bond between mother and child, and good results for both sides have resulted from the method.

First by private efforts — at Stockholm by the establishment of *Infants' Homes* — and later by the action of the municipality (in Stockholm and Gothenburg), so-called *"Homes for destitute mothers and their infants"* have been established, where mothers can care for their own children during the nursing period. Fifteen such homes have been established.

Mention may also be made here of the work of the *inspection of foster-children* that have been put out.

Help in different shapes is afforded to children cared for in their parents' homes. Thus about eighty *milk dispensaries* have been instituted, which are intended to give help in the artificial rearing of children. These establishments are developing more and more into *bureaus for giving information and advice*, and not least aim at encouraging the natural rearing of children. Parents unable to look after their children during the day, owing to working away from home, may send them to *crèches*, at a trifling cost. These are intended as a rule for children of from two to six years of age, but of late also crèches for infants under two years of age have sprung up in many places. Mention has been made before of the work done by *"childrens workshops"*, *children's shelters*, and other institutions for older children; and likewise *schools for the care of children*, which serve to instruct parents in appropriate care of children, *kindergarten*, and *feeding*.

For children who from various causes require public management, two ways are open, *boarding-out*, or *care in an institution*. The public opinion demands more and more the former expedient; but stern control is necessary in the matter of foster parents. The city of Stockholm has boarded out in the provinces between 2 000 and 3 000 in this way, and the control is exercised partly by officials in the various localities, and partly by travelling inspectors.

In cases where *children's homes* still seem to be necessary, i. e., for defective children or in districts where there are no suitable foster-homes, a conviction is gaining ground that *small homes* (as much as possible resembling the family homes) are the most beneficial. But even large homes can be arranged quite satisfactorily, by appropriate organization and by providing individual care. An example of such a home is the *Freemasons' Orphanage at Kristineberg*, near Stockholm, founded 1753; but now, under its superintendent, Pastor *Carl Bergö*, it has been remodelled into a perfectly modern institution, accommodating about 170 children. As an instance of a children's home where the family idea has been fully developed, we may mention *Prince Charles' establishment at Gålön*. Both date far back, but in their principles they are quite modern. Children are boarded out with tenants on the estate, and these stand in almost the same relation as parents; but supervising control is exercised by the institutes.

Modern *care of the poor* has assumed quite different forms, owing to the

various conditions that prevail in towns and in the country. It has previously been shown that, in a large number of *townships*, a voluntary *band of helpers* has been got together to assist the board in the individual care of the poor. Thus Norrköping possesses about 400 such helpers, Jönköping 100, and so forth. Gävle was the first town in Sweden to adapt this method, on foreign patterns, although similar efforts had been made in many towns, even in the fifties. In the *rural districts*, where the communal board commonly constitutes the board of guardians, no other division of labour exists in many parts than that members are responsible for their own districts — *division by districts* —, but the beginning of the guardian system is to be found even here.

Even in the matter of *care in institutions*, the conditions are very different as between larger towns and rural districts. In the former, the means for providing establishments quite up-to-date have been readily forthcoming, and the number of necessitous cases has been so great, that a number of different institutions have been established each with special functions. For example, there is in *Stockholm* a workhouse valued at about 2 million kr., opened in 1905, and intended for able-bodied persons; and further an institution valued at about 3 million kr., for sick and poor incapable of work, and two large homes, besides, for old people, a newly built home for old married couples, asylums for the homeless, etc. Similarly in *Gothenburg* there is a large institution called Gibraltar, now transformed into a place for tending the sick, and also old people's homes etc. In 1908—09 a large quite, modern establishment was built in *Norrköping*, which in various departments receives all classes of poor, in all about 500. On the whole, it may be said that in the towns great efforts have been made to meet the need of quite up-to-date establishments.

In the *rural districts* care in institutions is by far more difficult to arrange. There are insufficient means in many places, in others communities are so small that local institutions can hardly be set up; and where institutions are built they must serve all needs, — those of caring for the sick as well as of workhouses. It is therefore desirable — and may be possibly effected by fresh legislation — to erect establishments for a larger district, — for example the county — with State resources provided for the purpose. In spite of the difficulties which thus prevail at present, a rather large number of quite modern institutions have been established in the provinces of late years. Plans drawn by experts are now being employed more and more, and specially trained officials are being appointed, a procedure which is facilitated by the Poor Law Reform Association, (see article). The establishments now erected are partly *homes for old people*, where the aim is to arrange the whole as far as possible like an actual home, and partly of *poor law farms*, which, apart from their functions as refuges for the sick and aged, serve as workhouses. Whereas these former often consisted of large farms and wooded estates, it is now observed that a small farm or garden best meets the requirements.

It is conceivable that the *old age and invalidity insurance scheme*, started 1913 (see article), will essentially influence the development of such institutions, but in what direction can only be conjectured at present.

The Swedish poor law organisation has not so far any *central authority* charged with control and development. In every län, it is true, the governors are responsible for superintending its management, but special, competent officials are not at the disposal of the authorities. It is to be supposed that, in the expected legislation, an *inspecting authority* will be set up, in connection with which the most overburdened communities may receive help from the State in administering for the relief of the poor. Meanwhile an organisation has been at work since 1906 — *The Poor Law Reform Association* — for the purposes of affording information: it includes a large number of the boards of guardians and others

throughout the land. The advisory work which has been done by this association, in close co-operation with the authorities in the läns and with the help of grants from the county councils, has constituted an endeavour to compensate for the lack of legal inspection.

Efforts in Social Hygiene.

It is characteristic of every kind of modern social work that it pays increasing attention to preventive measures and allows itself to be guided by considerations of medical science. The care of both the poor and children, as well as other work aimed at helping the needy, is nowadays carried on according to social-hygienic principles, but there are besides many enterprises which concern themselves solely with preventive measures. The work which has best repaid the efforts expended in this respect has been that devoted to *children*. In other parts of this work accounts have been given of *vacation colonies, Schildren's workshops, children's shelters, milk dispensaries and dental care of school children*. Hence we shall confine ourselves here to some other enterprises of a preventive nature, which are to be met with in very different spheres of activity.

In recent years, more and more attention has been devoted to the problem of providing poor and underfed children of school age with wholesome and nourishing food. Consideration for the children and a desire that they should profit from their school education have thus compelled measures in this direction to be taken, although the danger that the parents' sense of responsibility would thus be blunted has not been lost sight of. *Meals for poor school-children* (cf. article on the Elementary Education) are now provided in the majority of the towns, and here and there in rural districts, either occasionally or as a regular institution. Methods have varied as regards selecting the children, control, meeting the cost, etc. In Stockholm, where a grant of 70 000 kronor has been made for the purpose by the city, 2 373 children were provided with free meals in 1911, at the expense of the municipality. The children were selected by the school authorities in consultation with the Poor Law representatives. In some places donations are employed for the purpose, or the meals are provided entirely by private generosity. In Gothenburg funds are provided by the town and by private persons, and there is a special society for their administration.

Another task of social-hygienic work is the provision of *sea-side sanatoria* for children that are afflicted with scrofula or tuberculosis of organs other than the lungs. There are three such sanatoria in existence: *Kronprinsessan Victorias kustsanatorium* (Crown Princess Victoria's sea-side sanatorium) at Skelderviken, *Kustsanatoriet Apelviken* (the Apelviken sea-side sanatorium) at Varberg, and *Kustsjukhuset å Styrsö* (the Styrsö sea-side hospital) at Gothenburg. By means of grants made by the County Councils and other bodies, many children are afforded care and nursing at these institutions free of charge, and the State makes grants for the covering of travelling expenses, so that children from *all* parts of the country are enabled to enjoy the advantages afforded, without appreciable cost.

Children's gardens or *Kindergarten*, which are intended to occupy and educate children that are not yet of school age, are now to be found in most large towns, though they are almost exclusively for paying pupils. *Children's gardens for the poorer classes*, on the other hand, have only come into existence in

Norrköping, Stockholm, and a few industrial centres. For working families that have not the time to see to the bringing up of their children the importance of these children's gardens is self-evident, and, in consideration of the fact that just between the ages of 4 and 6 a child's spontaneous activity is exceptionally great, such children's gardens would be of real importance for the education of the people, if they were organized. In Norrköping great activity has been evoked in this direction, thanks to the impulses of the Misses *Ellen* and *Maria Moberg*. But much still remains to be done in most places.

Many other enterprises, which are really undertaken for the sake of *adults*, prove to benefit also the children. Such is the case with the so-called *garden colonies*. They were first introduced at Malmö in 1895, but are now to be found in a considerable number of towns, more especially in Skåne, but also even so far north as Gävle. In Stockholm several fine garden colonies have been instituted, thanks chiefly to the energy of Miss *Anna Lindhagen*. There, as in other places, the municipality has rendered assistance, mainly by granting loans and by the letting of sites, etc. In several places the towns themselves have furnished the land, in other places co-operative societies have taken the whole matter in hand, and the colonists pay a rental for their allotments. As well from an economic as from a general hygienic point of view (open-air life and work on the soil) these gardens have a great mission to fulfil.

In Sweden, where formerly all classes of society were known for their inclination for the use of *water*, this excellent trait has shown an increasing tendency to disappear. In recent years, however, an improvement in this respect has set in, thanks to the influences exercised by the schools, military service, etc. *School baths* have already been mentioned. In towns and industrial centres, *bath houses* are now being instituted under the name of *public bath houses*, the most usual type being Russian baths with swimming-baths attached. In a few towns, e. g. Hälsingborg, the municipality has itself erected public baths, in other places the municipality has made grants or loans towards the erection of such institutions. In several industrial centres, such as Sandviken, Grängesberg, and Kiruna, the employers have erected baths for their employees, and in other places associations for dealing with the housing problem or other matters of public weal have stepped in, or philantropic associations have taken the matter in hand. The *Renström Baths* in Gothenburg and the *Per Murén's Memorial* in Gävle, among the most magnificent institutions of the kind, owe their existence to private donations.

Owing to climatic conditions in Sweden, it is necessary that the fullest advantage is taken of those times of the year when it is possible to get out into the *open air*. In the winter, *sports* take the people out for the most part; in the summer, a large proportion of the urban population pass their leisure in the *country*. For such as have to spend the summer in the towns the *public parks* are naturally of great importance. Besides those that have been laid out by the muncipalities, parks have also been created in other ways. By way of example may be mentioned the *People's Park* in Malmö, which is due to the efforts of organized labour in the town, and which is also a recreation ground. The *Furuvik People's Park* at Gävle has been laid out by the Uppsala—Gävle Railway Company. At the last-named there is, among other things, an open-air zoological museum, besides manifold contrivances for children's recreations.

A number of industrial undertakings have begun to give their workmen a short summer *holiday*, and it is to be expected that their example will be followed by more and more.

From the point of view of public health, those 'measures that are taken to promote *games* and *sports* of various kinds are of incalculable importance. A distinct tendency to make sport a national matter and not merely the concern

of a few sportsmen is becoming more and more evident. Here we will only mention that of recent years *gymnastics* have attracted increased attention, through the fact that facilities for practice have come to be placed at the disposal of increasingly greater numbers. Thus, in Stockholm so-called *public gymnastic troupes* have been formed, so arranged that anybody and everybody can join in.

In recent years, there has come into existence an organization for the furtherance of endeavours for the improvement of public health in Sweden, called *The League for Physical Culture.* This organization aims at promoting and diffusing an appreciation of gymnastics, games, sports, vacation farm-work, etc.; and it endeavours to awaken a taste for outdoor life in general, in the form of walking excursions and the like. To this end it distributes literature, arranges exhibitions, etc., and publishes a periodical.

The combating of certain illnesses found in connection with special occupations and the *promotion of satisfactory factory-hygiene* grow in importance as the country is industrialized. By the passing of the law of 1912, providing for the protection of the worker and for the development of factory inspection (see separate article), an important step in this direction has been taken. An effective contribution to the efforts in this direction was the formation in 1905 of the *Workers' Protection Society,* the object of which is to illuminate the question of how accidents can be avoided by suitable preventive arrangements, and how sickness caused by the exercise of certain trades can be prevented. The Society advances its objects by a State-aided permanent *workers' protection exhibition* in Stockholm and by disseminating literature and arranging lectures.

The measures that are aimed at promoting progress in the *housing question* (see special article) are also of a social-hygienic character. Of particular interest are those enterprises which have the object of providing good and cheap dwellings for the working classes, as well as of bringing social and moral influences to bear on the tenants, for example the *Stockholm workmen's homes* and the *homes for women workers* at Stockholm. The former enterprise, which has been imitated in many places, and which is due to the efforts of Miss *Agnes Lagerstedt,* aims at providing poor families with good and inexpensive dwellings and affording them personal help by means of the services of the landlord's deputy, a lady who lives in the same building. By means of a co-operative shop, children's gardens, lectures, and entertainments, efforts are made further to promote the tenants' education and well-being. The *homes for women workers,* founded by Miss *Gerda Meyerson,* are intended to afford similar advantages for unmarried work-women.

In the department of dwelling-house hygiene much remains to be done, not least in the question of enlightenment. In all larger communities the need for the *inspection of dwellings* becomes more and more evident; and in many places where such inspection does not exist ignorance of the proper methods of looking after a home can be clearly traced.

In the department of social hygiene can also be included measures for *disseminating knowledge of sexual matters and of sexual hygiene.* Efforts in this direction are still isolated and random. In a number of schools the higher classes are instructed in such matters by their teachers, addresses have been delivered at lecturing and other institutions by medical men, and a fairly extensive literature on the question has seen the day. Yet much remains to be done before the work of enlightenment in these delicate questions can be said to be satisfactorily organized.

Measures for *combating prostitution* and the *white slave traffic* are also allied to this work of enlightenment. A branch of the international *federation* which has made it its mission to secure the abolition of licensed prostitution has been

active in Sweden for many years. In 1912 its work gained recognition in a very comprehensive report issued by a Royal Committee which had been appointed to investigate "what measures ought to be adopted in order in a more humane and effective manner to prevent the spread of venereal diseases than at present". Hitherto no legislation has resulted from the issue of the report. The *Vigilance Association*, founded in 1904, makes it its special work to combat the white slave traffic.

The increasingly prevalent symptoms of *moral degeneracy*, which have appeared during recent years, have led to attempts to combat immorality in literature, theatrical representations, biograph entertainments, etc. In the fight against *bad literature*, which, under the name of "Nick Carter literature" (corresponding to the English "penny bloods"), used to circulate over the whole country, good results have been attained by the issue by a number of publishing houses of extremely cheap, but readable and interesting, literature ("25-öre books").

The State authorities have also made a grant for the scrutinizing of reading matter intended especially for young people, and a catalogue of the literature that has been scrutinized in this way has been issued. Protection against the showing of immoral pictures has been secured by the establishment of the *biograph censorship* (from 1911), but there is no theatre censorship.

Among the enterprises which have the exclusive object of combating immorality of every description may be noticed the *National Union for Moral Culture*, founded by Director *Theodor Holmberg* and his wife, which works by means of public meetings and by the issue of literature on the subject.

Efforts in Extension of Education.

Side by side with the activity exercised by schools of various kinds, a work for the extension of education exists and is in rapid growth. It is almost exclusively the edifice erected by individual enthusiasm, although the State and Communes render grants in aid. A review has been given in another section of the wide-spread *activities of popular lecturing*, and *libraries*, as well as *summer courses* at the Universities, and similarly of the *central institutions* which chiefly conduct this work. We shall now merely name some of the measures taken for the provision of *cultivating recreations* and some enterprises intended to *bring together various classes of society*, and to *spread social enlightenment*.

Interest in popularizing *music* has of late years been growing more and more lively. *Workmen's institutes* in Gothenburg and Stockholm regularly arrange people's concerts at a very low price. A grant is made in Gothenburg towards the purchase of tickets for concerts given by the Orchestral Union, and the Philharmonic Society. In Stockholm, the *Concert Society*, and the *People's Concert Union* arrange performances intended for the artisan public and subsidized by the State. In the provinces, associations get up *musical evenings*, in addition to which *choral societies* and *orchestras*, often numbering in their ranks members of different grades in society, give lecture performances. *Free Music in parks* is rendered in many towns, and in Stockholm a contribution of 18 500 kr. was made for this purpose in 1913. The Riksdag of 1911 voted 28 000 kr. for the support of orchestral music.

Likewise in respect of *art exhibitions* intended for the artisan populations something has been done. By co-operation between the artists' union and the students' association, Verdandi, such exhibitions have been held in Uppsala. In

Mora, and even as far north as Kiruna, in combination with the young people's meetings and provincial festivals they have been organized, in all cases with good results.

A special kind of exhibition is *travelling museums*, intended to show ethnographical exhibits, collected on research expeditions. Such a one was collected in 1908, by Baron *Erland Nordenskiöld* and has been hired out at centres where the population is considerable.

By the inception in 1912 of the *Stage Association* it was intended to supply the working class with the chance of *education by theatrical pieces* at a low charge. The Dramatic Theatre in Stockholm has been taken by the association for a number of evenings' every year, and tickets for it sold among workers; in the provinces special companies have given performances.

Certain associations have come into being to provide *young people* especially with improving diversions. *The Society for advancing refinement in the recreations of youth*, started in 1902 at Stockholm, operates in this way by local sections, which arrange gatherings for vocal and other music, lectures, games etc. Whereas this work is carried on by teachers and stands in close connection with elementary schools, the "*culture movement among young people*", on the other hand, is managed by the young people themselves, and includes members from every class. Under different names, *clubs*, such as "the vicar's boys", "friends of liberty", "Kungsholm young men's club", are carrying on work in Stockholm. Courses are arranged in sloyd, gymnastics, bookkeeping, etc., diversions are organized, summer excursions arranged, and so forth. They are mainly managed by the young people themselves, and exercise an influence in strengthening character and advancing culture. In Karlskrona and Stockholm, homes for *ships boys* have been established, where they can pass their leisure time.

In this connection something ought also to be said about "*the young people's movement*", which for some years, though apparently with some falling off of late has existed in villages. It obtained its impulses from the neighbouring countries, but, as a rule, it has been carried forward by the people's high schools, on one hand, and the temperance movement, on the other. In certain districts it was above all the summer meetings, which made it famous by assembling large crowds of people and obtaining the assistance of noted speakers, and sometimes also poets and artists. Latterly these meetings have assumed very much the character of *rural fêtes*. Even more important than these are the local associations which have come into existence in some districts (e. g., Skåne and Östergötland) and have been jointly organized by läns. Singing, music, literary recitals, debates, folk-dances are introduced at these gatherings, the development of which, however, seems to be threatened by political and social disintegration.

A purpose more clearly studious is evinced by the *study-circles* formed by the temperance societies (see p. 744). The *young people's Christian movement* is almost exclusively religious in character; it performs part of the parishwork, either of a church or a religious community, e. g., "Young peoples associations of the Swedish missionary Association", "the Guild of young people", attached to the National Evangelical Union, or else it has the character of inter-communion as the junior departments of the Y. M. C. A. and Y. W. C. A. We note, lastly; the *social democratic clubs for young people*, which assemble for political purposes but also devote much attention to the acquisition of knowledge.

A number of associations may be considered to share in the development of culture, in that they look to the *spread of enlightenment in social problems* and to *the levelling of class distinctions*. We may here cite some instances of undertakings of this kind. Since 1893, in Stockholm, originally on the initiative of

the authoress *Ellen Key*, *social evenings* have been set on foot and attended by women artisans as well as ladies from the educated circles of society. These evenings have consistently aroused great interest, and have contributed to a better understanding between women of different grades in society. A still greater influence has been exercised by societies, which, under the name of "*Students and workers*" have operated in Stockholm, Gothenburg, and both the University cities. As early as 1886 the association in Uppsala was started, but the one that followed later in Stockholm soon attracted decidedly the greatest number of members, of both sexes and of different professions and standing. Led by its unflagging president, *E. Laurent*, medical doctor, it exercised, in the nineties and in the beginning of this century, a wide-spread influence by means of remarkable debates on social problems, and because the social evenings and excursions were attended by both the labouring and the student classes. Of late years, political tendencies have very much hampered and limited the work of the society.

The same idea of a closer union between the various classes of society, and also between town and country, is partly responsible for the effort to induce *students to take a share in agricultural work during the summer vacations*. But it arises principally from providing "reading men" with necessary recreation at a low cost, for they have to do adequate work for their board and lodging. One Uppsala student took up the matter in real earnest in 1907. Very many more have since seen the value of such labour in the summer. Their large number is evident from the fact that, from one single secondary school containing 101 pupils living in the town, as many as 39 partook in practical work in the summer of 1910, and of these 26 as "harvesters".

Many enterprises work for the spread of social enlightenment and social knowledge in general. The many-sided activity of the *Central Association for social work* moves especially in this direction (see article). The *associations for women's political franchise* have kept *social courses* going in villages for some years. In many provincial towns there are *debating clubs*, which arrange lectures and discussions on social questions. Since 1903, on the initiative and under the guidance of *Anna Whitlock*, principal of a school, common *social instruction* for *the higher classes of pupils* in all the girls' secondary schools in Stockholm have been arranged, as well as in a number of the secondary schools for boys. Lectures on social subjects are held, and visits are paid to different social institutions. Such instruction has also come into vogue at Gothenburg in private schools.

The need of *meeting-places* for the various undertakings in the extension of education is commonly met by the use of schools, assembly rooms of temperance societies, etc. In some industrial centres, large *halls* and *libraries* have been built, chiefly by means of donations. This is the case at *Grängesberg*, where the "*Cassel Donation*" amounts to 1/4 million kr., at *Domnarvet*, *Sandviken*, and other places. In the country districts of Värmland, on the initiative of Mr *M. Hellberg*, an editor, small "people's palaces" have been established which are intended to be education centres for all classes of people.

Livelihood and Professional Training.

The measures to provide opportunities for work and educational facilities for the masses are becoming increasingly extensive in these days. In the first place, it is a matter of providing opportunities for *young people* to acquire satisfactory training for their future callings in life. It has

been shown in a previous article that a praiseworthy initiative has been taken in this regard by the *elementary schools*, especially by instituting training in home industries. The need for purely trade schools has however emerged more and more, and the establishing of these, which was before the exception and a private matter, has in later years become a municipal affair.

Trade Schools. The first municipal trade schools in Stockholm were instituted in 1912. They are arranged on the one-day type, i. e., the pupils work five days a week in their respective shops, and go to the school on the sixth. Every school keeps a workroom for practical instruction; its theoretical department comprises the three "r's", drawing, hygiene, and social science. The period of instruction is three years. Schools have so far been established for mechanics, joiners, smiths, electric-fitters, and seamstresses.

For visiting seamstresses there is also a *municipal* school with a two-years' course, but here the work goes on every week-day.

There are, moreover, trade schools established by private effort but *supported municipally;* such are:

The North Trade-School of Stockholm, established 1911, of the six-day type, for tailors and joiners.

The Masons School of the Builders' Association, founded 1901, with two hours' daily instruction five times a week.

The Book-Binders' School, instituted 1907, partly of the one-day type for a period of three years, and partly evening courses for two years; and *The School of the Hairdressers' Association*, started in 1899, with instruction eleven hours a week for four years.

The two last have, since the municipal schools were set up, been remodelled to close conformity with their syllabus.

The Society for Promoting Popular Education in Stockholm has, parallel with its courses on house-keeping, arranged, since 1912, a trade school municipally supported, with instruction six days in the week, in three sections: *Domestic duties, care of children,* and *dressmaking.*

We may mention, among trade schools in places other than the capital, *M. Nordenfeldt's Female Trade School in Gothenburg*, partly one-day, partly evening, and partly five-day; all of three years' courses, and including plain needlework, dressmaking, and costumerie. It enjoys a municipal subsidy. In *Kiruna* there are trade schools in continuation of elementary schools.

In a large number of towns are, moreover, *technical Sunday- and evening-schools.* Further, schools for certain trades such as *building and engineering* at the Technical School of *Stockholm; for the finer kinds of forging and metal working in Eskilstuna; for weaving in Borås; the School for Mining Foremen and Technicians in Krylbo, etc.*, The average age for pupils in these is, however, considerably higher than in the trade schools proper.

There is no really systematic instruction in various trades and suitable for different ages in Sweden, but a proposition on the subject is found in the report given in 1912 by the *Trade-School Committee.* Similarly in its reports published up to now, *the Committee of Popular Education* suggests the desirability of practical superstructures on the basis of the elementary school, specialized in various places according to the local needs. In this connection we must not omit *schools for practical work.* These exist in a number of villages, and, without being trade schools pure and simple, are intended to increase aptitude and taste for practical work among young people. Beyond comparison, the most important enterprise in this field consists of the *boarding schools of the Sunnerdal Foundation,*

established in 1908 with a bequest of 4 million kronor. These are situated at Säbyholm, Bro, with the purpose of providing poor boys and girls, particularly from large towns, with free education of a practical turn in the country. Besides theoretical subjects, instruction is given in metall- and woodwork, farming and gardening, to boys; and to girls, in domestic economy, sewing, care of children, and gardening. The period of schooling is four years. Up to now, ten cottages, besides the schoolhouse, workshop, etc. have been built, each for a "family" of eight girls and six boys with a "mother"-superintendent.

Schools for domestic work. So far as training in domestic vocations is concerned, an account has already been given in the article on the extension and importance of *school kitchens;* we shall therefore only deal here with what has been done in the same direction outside the school.

"Schools for domestic work", for paying pupils of the upper classes, are found both in towns and in the provinces; yet they fall to a certain extent outside the limits of this survey.

Among those with low charges for girls of the artisan class, and intended generally to train them as servants, we may mention the *Stockholm School of Practical Domestic Economy*, and the *Little School of House-Keeping at Sundbyberg*, in both of which the period is one of three years, and the pupils are boarded, while under training. There are similar schools in various larger towns. One may also point out that a cooking course is also arranged in connection with the *School for Household Economy in Uppsala.*

Pupils are received for a training course of five months at the *South Y. W. C. A. School of House-Keepers and Domestic Servants.* Girls are received and trained (after they have finished in the Stockholm elementary schools), for a course of one or two years at the *School of House-Keeping of Stockholm Lady Elementary Teachers at Fornäs* (Norrtälje).

Two schools are maintained in *Stockholm* by the association of *Schools of House-Keeping and Care of Children*, in which girls, after leaving school, may pursue a course of one year free of charge. The work here is productive socially because it is used in infants' crèches, for the feeding and care of children, and cheap meals: "the girls' kitchen" etc. The idea of instruction of this kind has also been taken up in *Gävle.*

The previously mentioned *Society for Promoting Popular Education*, offers at *Stockholm*, in its continuation school for girls, a two years' course in practical experience of serving meals, care of children, care of the sick, sewing etc.

Education in cooking for workmen's wives has been provided in Stockholm, partly by the Swedish section of W. C. T. A., and *the Committee for Courses in Cooking for Housewives* (formed by the association of teachers at cooking schools and subsidized municipally) and partly also by the municipal authorities, namely the *Boards of slaughter-houses, market-halls, and the gas works.* All these courses have generally been quite free of charge. The training of housewives also aims at *advisory work for the home,* which has been set in operation in some parts of Sweden, e. g., by *the Associations of Teachers at Cooking Schools* at Stockholm. For shop assistants, factory girls, etc., *evening courses in serving meals* are likewise arranged in many places, e. g., at the State training college for cookery teachers, and the South Y. W. C. A. in Stockholm; and at Uppsala in the School for Household Economy, and elsewhere.

As concerns education in house-keeping *in the provinces, itinerant school kitchens* are intended to provide this chance even to smaller communities. They are sent out by several institutions, e. g., the Swedish Society for Temperance and Popular Education, by the Athenéum for girls in Stockholm, and the School for Household Economy in Uppsala. Certain County Councils have furnished such schools, and like the provincial agricultural societies are accustomed to con-

tribute to their activity. But courses in house-keeping are also arranged now in *People's high Schools* and at larger industrial centres, where the care of employers provides opportunity for young women to be taught household duties.

Finally, great importance should be attached to the *School for Farm House-Keeping at Rimforsa,* founded by the Fredrika Bremer Society in 1907, which trains teachers for similar institutions for women, and for fixed and itinerant school kitchens in the country, and lecturers for women's courses on small farms, etc.

Education in the care of children. People are more and more awakening to the need of training nurses and future mothers in the reasonable care of children, and for this purpose courses are now set on foot in many places in Sweden. Instruction in the care of children is also commonly given in connection with the *schools of house-keeping* mentioned above. Similarly, it seems particularly suitable to combine *crèches* in towns with the education of nurses. So it has been arranged in Stockholm at *Engelbrekt's Crèche for Children and School for the Care of Children,* and at *"Children's Care"* in Gothenburg. The association, *"School for the Care of Children"* in Stockholm co-operates with the higher elementary school of that town in furnishing instruction in the subject to its senior pupils.

The *Child-Care Society* in Stockholm imparts theoretical and practical instruction in the subject, in a course of 3 months adapted to the needs of servants and educated girls alike. The *Bureau for the Care of Children* of the Swedish Poor Law Reform Association in Stockholm offers, in connection with its infants' home at Örby, near Stockholm, short courses in the subject (see art. "Protection of Children").

The provision of work. Side by side with what has been effected in the opportunities for education of young people, measures have been found for facilitating the obtaining of situations by adults. (The next section will give a complete account of the forms adopted in labour exchange proper.)

The *Registry of Women-Workers and Employers* in Stockholm supplies, at an entrance fee of only 10 öre, information as to all kinds of occasional work for women, such as sewing, washing, waiting at table, etc.

The *Society for Providing Situations for domestic servants* at Stockholm is a servants' registry office, intended to consider very especially the mutual interests of both mistresses and servants, and it consists of founders and supporters: the yearly subscription for house-keepers is at least 2 kr., and for servants, 1 kr. A sick fund has been formed for rendering temporary assistance to needy members.

The *Salvation Army* has a *bureau for providing places* in connection with its servants' home in Stockholm, for the express purpose of taking in hand and giving information to girls newly arrived from the country.

Many different enterprises work in aid of *supplying labour in the home.* A previous account has been given as to what is done in this respect in the department of *home-sloyd.* We will now give some details of other similar undertakings.

The *Charity Organization Society* (F. V. O.) has a *sloyd department* for the purpose of providing work for those who, from old age, sickness, or other cause, are unable to procure work for themselves. The products are sold at current prices in the shop connected with the department.

To aid women from all classes of the community who have to add to their incomes by needle-work, etc., the *Beehive Association* was founded in Stockholm in 1870, and developed in 1885 into the *Society for Furthering House Industry.* For a small percentage, the Beehive disposes of all kinds of woman's work, but is, besides, intended to develope skill and, in case of need, to give advice, advance working materials, exhibit designs and models, etc. There are similar enterprises

in a number of Swedish towns. A *Union for Voluntary Parish Work* has existed for many years in most of the Stockholm parishes, with the object of providing work, chiefly sewing, to well-recommended persons in need of help. The yearly service rendered by these associations benefits nearly 600 persons.

The association in Stockholm *"By One's Own Work"* purposes to collect the means to pay cash for the work of aged and destitute women, sell it, and utilize the possible balance for extending the work.

The North Voluntary Working Home in Stockholm, besides undertaking the requisite care of the poor, especially in the parishes of St. James and St. John, facilitates the production of hand-work, either in special work-rooms or in the home.

The *Seamstresses' Association* of Stockholm sees to the moral as well as the material support of its members. It has formed a fund for sickness and pensions, and conducts a summer home.

Central Association for Social Work. (C. S. A.)

The institution which in Sweden constitutes a centre for voluntary social work and from which a great proportion of the work for social enlightenment proceeds is the Central Association for Social Work.

The proposal leading to its formation was made at a debate in the spring of 1903, arranged by persons engaged in active social work, on the question "the best way to advance social work", and opinion was united on the need for establishing a union between associations doing social work, above all for the purpose of the promotion of social enlightenment. On June 3rd, the same year, a programme had been prepared for the new organization, which, according to the regulations adopted, has as its object "the awakening of interest for and the spreading of the knowledge of social objects in different strata of society, and thereby to co-operate in the solution of important social problems". The association aims at performing this function, among other things, by means of a *social library,* a *social information bureau* and a *permanent social exhibition:* by arranging *lectures* and *circles of study* on various social questions, and more comprehensive *courses of training in practical social work:* by instituting *enquiries* and *investigations:* by distributing *publications* and by assembling professional men of different social grades to general *deliberations and congresses.*

The society consists of a union of associations which pursue social objects, whose representatives appoint the governing body and are the supreme authority. The associations which were incorporated in the society in 1913 numbered 61, of which 22 were central organizations, and covered the whole country.

The *library* is accessible to the public gratis, partly for study on the spot and partly for the loan of books, and includes about 2 000 volumes. Besides the works that give a survey of national economy, social politics etc., it contains about 100 Swedish and foreign magazines, parliamentary and municipal publications, committee reports, books of reference, and special literature touching most social

problems, such as the housing question, small property ownership, co-operation, labour questions of various kinds, social insurance, public hygiene, etc.

The *social information bureau*, which is also free to the public, imparts information by letter and orally concerning social conditions and social work in different spheres. When social undertakings are to be organized the bureau is in a position to refer to existing models in Sweden and abroad, or else to give advice and information. The records contain extensive material, consisting of reports systematically arranged, statutes, newspaper cuttings, etc., referring to associations and enterprises for social work.

A special source of information consists of interviews with expert architects, by means of which builders of small property intended for workmen tenant-landlords can obtain advice and information about the building, fitting-up, and upkeep of the dwellings.

The *social exhibition* came into existence in 1906, and has ever since been kept permanently accessible to the inhabitants of the metropolis. For short periods it has been removed to other places, such as Gothenburg, Norrköping, Örebro, Lund, Västerås, Malmö, Kristiania, where its contents, or part of them have been exhibited in connection with other exhibitions. It is intended by means of graphic tables photographs, drawings, models, etc., to provide an idea of social conditions and social work in Sweden. Among other things it includes illustrative material respecting dwelling-houses and "own homes" (egna hem), public and private aid work, care of children, co-operation, education of the people, public hygiene and social statistics.

A distinct form of exhibition work was pursued by the C. S. A. at the Exhibition of art and industries in Stockholm in 1909, where the society undertook to install furniture and cooking apparatus inside an working-man's cottage with special view to the interest for hygiene, aesthetics, and practical economy.

Lecturing work includes lectures and debates on present social problems, as well as courses of lectures dealing with certain groups of subjects in political economy, national economy or municipal administration and also *circles of study*, in which social subjects may be more thoroughly discussed.

Educational courses for practical social work are occasionally arranged expressly for the benefit of those who intend to devote themselves to work as inspectors of dwellings or of foster-children, or otherwise to the more exacting tasks of social work. The courses, which generally last for a year, include theoretical as well as practical work.

Inquiries and investigations have been pursued in many social directions according to requirements and available resources. The most important of these dealt with poor relief and were promoted by a gift of 20 000 kronor handed to the society for this purpose in 1905. A committee was appointed, which, after two years of work, produced *"Principles of reform in Swedish legislation for Poor Relief"*, a work which, in many respects, added impetus to the efforts for reform in this department.

The next great question for the consideration of C. S. A. was that of the *homework question*. In the autumn of 1906, the association was able, after long preparation, to open an *Exhibition of home-work* in Stockholm, and this brought the regulation of the system to the forefront. The necessity of fighting against the conditions prevalent in this industry was manifested not only by information imparted by notices fastened on the objects exhibited, but also by enquiries into conditions concerning different branches of Swedish home-industries: these were communicated in the report *"Conditions of Swedish home-work."*

Another great investigation was made by C. S. A. upon *hours of work for shop-assistants* of different kinds in Stockholm, in connection with a question, then under consideration — legal closing time for business houses. The condi-

tions under which shop-assistants work have also been the subject of enquiry in other ways.

Publications of various kinds are issued. Newspaper articles dealing with pressing social subjects are sent to the press every month. The publication of "*The Social Magazine*" is facilitated by a yearly grant. It is the organ of the society, ever since 1901 has been under the editorship of Mr *G. H. von Koch*; and enjoys at present a state subsidy. It affords scope for an allround free discussion of social problems. Publications directly issued by the society consist of a number of pamphlets, bibliographical works, congress matters, and reports on inquiries instituted. The society has, besides, supported or otherwise aided the issue of a multitude of various publications on other social work, e. g., a "*Social Handbook*" in 1907.

Congresses on certain matters of interest have been held by the society at different periods. The *congress for poor-relief and insurance of the people* met at its invitation in 1906. This, attended by about 1 000 members, was the first great social congress held in Sweden. Among its results was the formation of the *Swedish Poor Law Reform Association* (see special article).

In the new year of 1907, a *small holders conference* was held, to which were invited experts and other interested persons from all parts of the country. The congress, which was attended by about 375 persons, dealt with a number of questions arising out of the requirements of the small holdings movement and its position with regard to the agricultural policy of the country. Various expressions of opinion resulted, and these were presented to the government.

In the Autumn of 1907, another great congress was held, namely, the *Municipal Congress*, which was attended by about 800 municipal officials, and at which the discussions dealt with the subject of the lines of development of modern municipal politics. An important result of the congress was the formation of the *Swedish Townships Association*.

For the treatment of the question of crimes and their punishment, a *Criminalist Congress* was summoned in 1911, the members of which largely consisted of lawyers, prison officials, and physicians. This congress, too, gave rise to a new organization for the further treatment of these questions, namely, the *Swedish Criminalists' Society*.

The Swedish section of the International Association for the Legal Protection of Workers. To supply the lack that was felt owing to the fact that Sweden was not represented in this association, the C. S. A. determined, in 1909, to constitute itself the Swedish section of the association. This branch of its work is managed by a special board, on which that of the C. S. A. is strongly represented. The finances of the section are quite distinct from those of the C. S. A. and are based upon subscriptions from industrial undertakings and private persons, who need not be members of the C. S. A. The section prepares reports for the congresses of the international association, dealing with Swedish conditions and Swedish legislation. The section also constitutes the channel through which the international association can make suggestions and representations to the Swedish government. On the section's initiative a Swedish association for the prevention of unemployment has been formed, and this, in its turn, constitutes a branch of the international association founded with the same object.

The *bureau of the C. S. A. for providing legal assistance for the destitute* co-operated with the Stockholm branch of the Swedish Solicitors' Union and developed considerable activity during the years 1905—13. This work has, however, lapsed, since the municipality of Stockholm instituted a bureau on almost the same principles.

The *finances of the association* have, since its inception, been based upon donations and members' subscriptions. Since 1908 the C. S. A. has enjoyed a

municipal grant from the city of Stockholm, amounting to 2 000 kronor. A firm foundation for its finances was, however, laid, when King Oscar II and Queen Sophia presented a donation of 100 000 kronor, in commemoration of their golden wedding on the 6th of June 1907. For the support of its congresses and other undertakings, the association has, moreover, received special grants from the State and considerable donations from private persons.

Photo. ALMBERG & PREINITZ, Stockholm.

Y. M. C. A. Building, Stockholm.

Young Men's and Young Women's Christian Association.

K. F. U. M. These letters, whose equivalent, Y. M. C. A., is well known to English readers, denote an organisation partly belonging to the social, partly to the religious sphere. Ever since its foundation in 1844 by the young clerk George Williams in London, it has had for its aim social improvement as well as religious awakening among young men, in the first place shop assistants. It now numbers more than one million

members, distributed all over the world and united in a World's Alliance with its headquarters in Geneva. A visit made by the Secretary-General of the Alliance led to the foundation, in 1884, of the *Young Men's Christian Association* in Stockholm. The World's Conference, held there in 1888, evoked great interest in different parts of the country and helped to call into life such associations in a number of cities.

At present the Swedish Alliance of Y. M. C. A.s, founded the same year, includes 129 associations with 11 463 members. They belong to all classes of society, and the personal intercours between members is not without significance for levelling down social distinctions. 14 associations have their own buildings with a total value of 2 520 535 kronor, 12 have 17 fully or partly paid secretaries, whose salaries reach a total of 30 900 kronor. 16 associations publish Monthly Bulletins with a total circulation of 15 700 copies, to which should be added the "Förbundstidningen", the organ of the Swedish Alliance, with a circulation of 4 500. The Alliance, as well as several associations, have published literature on the work. The various branches of work are classified as physical, intellectual, social and religious. The first group, comprises gymnastics and sport. The gymnastic team of the Stockholm Y. M. C. A. in particular has achieved great renown; it has been repeatedly asked by the authorities to represent Swedish gymnastics at international congresses for physical education. With regard to singing, the Y. M. C. A. has also made its mark. The intellectual work includes popular lectures, debates, courses of study, and libraries. Under the social department in the special sense should be included summer homes, generally rented, but in some cases belonging to the associations, soldiers' homes, provident societies, social study circles, temperance circles, and work for raising the moral standard among young men. The religious work includes open-air meetings, Gospel meetings for young men, Bible study of various kinds, missionary study, and so called craft meetings. An important element is the work among boys aged 12—17. The number of members in boys' branches is 3 479, which number includes 2 000 boy scouts of the Y. M. C. A. Boy Scout League. For these, as well as for members of the main associations, summer camps, summer tours, and study courses are arranged.

The Young Women's Christian Association. The Y. W. C. A. (the English initials corresponding to K. F. U. K.) works among young women, as the name implies. It is mainly religious, but also includes a number of social functions. The religious and practical sides are closely allied, and both serve the same purpose, — Christianity embodied in deed and in truth.

To specify some departments where the work is more directly social, attention should be directed to the various kinds of homes organized by the society. In Stockholm and Gothenburg many boarding-out homes are to be found; some for industrial working girls exclusively, and some for these as well as other young women. These homes are much in request, both for their cheapness, and the homelike feeling and comfort that stamps them. Many of them supply cheap dinners to a number of self-supporting women. In many places evening courses in cooking, sewing, singing exercises, and gymnastics are arranged.

An increasing number of pupils is yearly instructed at the school for housekeepers and domestic servants at the branch of the Y. W. C. A. in the south of Stockholm.

The summer-homes are of another kind. They are on the east and west coasts,

in forest regions, among mountains, and supply a great want by providing rest and recreation for young people during a longer or shorter holiday.

In the various homes and premises of the Association, young women of different classes and callings assemble together, at social gatherings and devotional meetings, for common work and common interests. An important social mission is doubtless fulfilled by these girls from different spheres of life gathering together to understand and sympathize with one another. A new kind of summer work consists of camp-meetings for young girls from 15—25 years of age. At these camp-meetings the young girls can enjoy a week of unconstrained, joyful, and profitable intercourse.

Lending libraries with or without separate reading-rooms are to be found at most of the branches.

The Y. W. C. A. Swedish Alliance has 46 associations with an aggregate of 4 600 members. It is in connection with the World Alliance and can therefore afford assistance and support to its members in all countries where a Y. W. C. A. is found.

Social Rescue Work.

Voluntary social rescue work has grown up side by side with that shown by the State and commune, in befriending various classes requiring help. The former generally stands in close cooperation with the latter, and frequently enjoys financial aid from them. A similar branch of work is found in the private or voluntary relief of the poor, and another in social rescue work, whose function is to provide in various ways for such persons as, according to prevailing legislation, cannot avail themselves of assistance intended to be furnished by boards of guardians, or allied organizations in the state or commune. This section includes released prisoners, prostitutes, inebriates, etc.

(1) **Rescue work among released prisoners.** The warm interest for prison reforms which arose in Europe in the twenties, added an inpulse to the measures taken for the care of released prisoners. In Sweden, King Oscar I was the prime mover in these efforts. Testimony of this fact is furnished by his book "Punishment and Penal Institutions". Associations were founded to get work, or otherwise befriend, released prisoners. The *Kristianstad Län Prisons Society*, founded in 1848, was the first local association in Sweden. Activity in this branch first attained wide dimensions in the seventies and eighties. There were then established:

(A) *Prisons and Protection Associations* in all the läns except the two of Västergötland.

At present they number 24, and the governor is as a rule president in his län. A central association was formed in 1879, for the support of released prisoners, with the governor of the prisons as chairman. In 1912 the Royal Board of Prisons undertook directly to provide released prisoners with places, which the Central body had previously done. All associations here named are intended above all else to deal with *such released prisoners as during their term of punishment had observed good conduct.* The Prisons Board disposes of various funds for the purpose. Their proceeds in 1911 amounted to 24 882·94 kronor; the balance of the län associations the same year was 239 173·31 kronor.

(B) *The Protection Society* (*Skyddsvärnet*) formed in 1910, and operating throughout the whole country, contemplates the care not only of released

prisoners but those under suspended sentence, inebriates, prostitutes, etc. The society thus has both a field of work wider than those sketched above, and an aim above all directed towards such safeguards as are likely to *forestall* crime, and thus to take in hand those who are punished and those who are not. By this means a better adaptation to recent efforts of penal legislation is aimed at. The society has a department for providing situations; one for the care of inebriates; one for the investigation and probation work concerning those under suspended sentence; a bureau (*skrivbyrå*) for educated clients, etc.

(C) Parallel with the associations, is the work of *protection or rescue homes* for discharged prisoners or others.

The *Queen's Protection Home* (*Drottningens skyddshem*) in Stockholm for released women, founded in 1860 by the late Queen Sophia, then Duchess of Östergötland.

Home for the Destitute (*Hem för elända*), Stockholm, for men.

City Mission Labour Home (*Stadsmissionens arbetshem*), Stockholm, for men.

The Salvation Army has several rescue homes for both sexes, in Stockholm and the provinces.

Add to these, *night refuges* (*natthärbärgen*) for both sexes, *boarding-houses, steam kitchens* (*ångkök*), *timber yards* (*vedgård*) with many other establishments, mostly in Stockholm. These institutions receive the necessitous for a longer or shorter time.

The Prisons Board established, in 1912, the *Åby Country Home* (*Lanthemmet Åby*) near Uppsala, for discharged male prisoners.

The *Swedish Church Voluntary Work Board* (*Layreaders*) has founded a *Tramps' home* (*luffarhem*), at *Björknäs*, near Uppsala. Several similar homes are in course of preparation.

The city of Stockholm has many *Asylums for the Homeless and other similar institutions*, Gävle a *Home for Vagrants* (*Hem för vandrare*); near Norrköping a *Workman's Colony* (*Arbetarekoloni*) is founded. Several of the establishments here mentioned receive persons who have not been under punishment.

(2) **Rescue homes for women.** For the purpose of enabling prostitutes and needy persons similarly situated to emerge from an immoral life, several homes have been established.

The *Salvation Army* has many of these homes, in Stockholm and in the provinces. There exist also the following institutions:

The *White Ribbon Admission Home* (*Vita bandets upptagningshem*), Stockholm.

Elsa Borg's Rescue Home, Stockholm.

The *Fristad Refuge Home*, near Stockholm.

Kvinnliga småbrukskolonien Emmaus (farm colony for women), near Norrtälje.

Föreningen Göteborgs kvinnohem (home for women).

(3) **Institutes for Inebriates.** The mission of the institutions named is to provide for persons who suffer from the consequences of habitual misuse of alcohol the opportunity of recovering their health.

At present there are the following:

Kuranstalten Sans Souci (Retreat), Uppsala.

Stiftelsen Stockholms alkoholisthem (*Eolshäll*, near Stockholm).

Vårdhemmet vid Berga (the Berga Retreat) Stora Sköndal, Stockholm.

The *Strängnäs stifts alkoholisthem at Härnö.*

Kuranstalten Solvik at *Styrsö, Gothenburg.*

The *Salvation Army Retreat at Kurön.*

Flodakolonien, Vemdalen, Härjedalen.

The last-named not only receives inebriates, but also aims at training its clients as small farmers.

(4) **Other Institutions.** Besides the work of rescue indicated above, there are

other forms which do not concern themselves with people degraded by vice or crime or similar causes, but where help is directed to the defenceless, or those who are on the brink of despair, or exposed to the risk of succumbing to difficulties. Such an organization is *"Vigilance", the Anti White Slave Traffic Association.* The Swedish branch, founded 1904 and attached to the international organization, has its head-quarters in Stockholm, and local centres or representatives in many other Swedish towns. Its chief purpose is to aid women travelling or seeking occupation in foreign countries. It maintains *Homes* or *Boarding-houses* for women, in Stockholm and Gothenburg.

* *

The *Svenska Kriminalistföreningen* (Society of Swedish Criminalists) which strictly does not belong to the institutions mentioned above, still calls for some reference here. It was founded in 1911 with the object of bringing together persons interested in the discussion of problems of crime and its causes, and the means of combating it, and also to promote in other respects investigations into these subjects.

The Association contains within it a national branch of the International Criminalist Association.

Swedish Poor Law Reform Association.

This association was founded in 1906 (see under art. "Poor Relief"), and is a combination of about 650 Boards of Guardians, a large number of benevolent associations, and about 1 100 private persons. Its object is to "unite all such as are engaged in public or private work for the care of the poor and of children, with the object of securing appropriate uniformity in such work". For the attainment of this end, the association has established an information bureau in Stockholm and appointed advisers in the care of the poor and of children, who either traverse the land län after län, or else visit different spots at the request of the responsible officials of Boards of Guardians, of other authorities, or of private individuals. Most of the county councils in the country have provided subsidies for these tours, on which complete reports are sent to the proper authorities in the läns. Furthermore, expert architects serve the association by providing printed plans of homes for old people, poor-law farms of different sizes, children's homes, institutes for the feeble-minded, and so forth: these drawings are placed at the disposal of members of the association free of charge. Furthermore, the architect assists in examining projects for buildings, gives suggestions for alterations, etc.

In the case of outdoor relief for the permanently sick and paupers suffering from senile decay, in order to render help to boards of guardians in rural districts, the association has commenced to appoint "poor relief sisters" in such centres that they can visit the parishes in different läns where their help is necessary to the cases in question.

In various parts of the country, Poor Law Conferences are annually arranged, which last 2—3 days and include lectures and discussions dealing with the care of the poor, the sick, insurance questions, etc., visits to institutions worth inspecting, and the like. By means of half-yearly educational courses for poor relief officers, comprising theoretical as well as practical instruction, the association trains officials suitable for the work in the domain of poor relief and the care of children. We should mention in this connection the agency of the association that provides situations for poor relief officials, primarily intended for

those who have completed the association's course of instruction. It publishes the Magazine of the Swedish Poor Law Reform Association in an edition of 4 300 copies in six numbers annually, The Guardian's News and the Records of the Swedish Poor Law Reform Association, of which 15 series have been issued, containing full reports of the general work at home and abroad and the work for the care of children. The association has also issued since 1913 the Audit Court collection of precedents in poor-relief suits. The calender of the association comes out every second year, dealing with all the various institutions for the care of the poor, children, the sick, abnormals, and containing articles of general interest. By representing different problems to the powers in the State, the association has also endeavoured to secure development in matters affected by its operations.

The association is managed by a board of 30 members and as many deputies, including representatives from all the läns and from the cities of Stockholm and Gothenburg. As the board only meets once a year, the work is directed by an executive committee of 5 members. The president of the association ever since its foundation has been Johan Widén, the governor of the län of Jämtland, and the chairman of the executive committee and director of the association is G. H. von Koch, editor.

The association works in three different sections: the departement for the care of children in Stockholm, the department for poor relief officials, and that for rescue work.

In 1908 it received a State grant of 8 000 kronor, which has been raised to 17 000 kronor from 1914 inclusive.

Protection of Children.

Besides what has previously been said, a special place merits to be reserved for a review of the measures taken, publicly and privately, to protect the growing generation; this is all the more desirable, as the work of this nature, that has been accomplished in Sweden has been both ample in scope and successful in results. The chief laws and ordinances providing for the protection of children are the Care of Foster Children Act, the Education of Depraved and Morally Neglected Children Act, and the Poor Relief ordinance.

From lack of space, only an abbreviated and compressed account can be given of the various forms assumed by the protection of children in Sweden.

The following categories of children are contemplated by the above Acts: (1) parentless children, or those who lack relatives; (2) those whose parents are unknown; (3) those whose relatives cannot, or will not contribute to the protection or care of them; (4) those who in consequence of mental deficiency need some other attention than can be provided by individuals, homes, or schools; (5) and finally, children so morally degenerate as to require care at institutions specially adapted for them.

It will have been gathered from the above that the laws contemplate normal and healthy children as well as those that suffer from physical, spiritual, or moral disease.

The *management* of the work is undertaken by institutions that receive public encouragement and support from the State or commune, by associations wholly or partially privately financed, or thirdly by private persons who from philanthropic or other motives, devote their efforts to the work of protecting children.

It may be assumed without further explanation that Stockholm and its immediate surroundings present the most typical as well as the most productive instances of activity in the work, through institutions, associations and private efforts; but other districts of the country, too, possess good and valuable examples of this important social work among infants, children, and young persons, into which three classes the growing generation can suitably be grouped.

It is not feasible to enumerate even approximately the manifold foundations that serve this sphere of work, but a few words may be allowed concerning "Allmänna barnhuset", the Public Orphanage, at Stockholm, partly because that institution holds longstanding traditions, but also because it performs its function in a remarkable and unique manner.

Photo. MALMSTRÖM, Stockholm.

The Little Ones' Home, Stockholm
For children suffering from heriditary syphilis.

Its aim is to receive and care for unprotected children, and as far as possible outside the home and preferably in the country parts bring them up to be useful members of society. The children are received up to six years of age, and thus also when new-born, upon a payment of 600 kronor as a rule. They are put out with foster-parents as soon as possible in respectable licensed homes and at a fixed charge, and there they stay till 14 years of age. By means of inspectors who control the care of them, the home superintends its protégés, and so fulfils its guardianship and maintains the position justly assumed as a model institution in all respects.

Asylums, homes, cottages, and crèches for infants and children, milk-dispensaries and other appropriate establishments are intended to provide home-care for *healthy* infants and older children, and are to be found almost everywhere in Sweden.

Sick children receive attention from official doctors free of cost when necessary at surgeries and infirmaries. Hospitals exclusively for children exist at

Stockholm, Gothenburg and Malmö. Also dentistry has been provided for children in need of it.

An institution remarkable of its kind is the "Lilla Hemmet", the Little Ones' Home, opened in 1900. At present 37 children are received into this refuge, burdened with hereditary syphilis, and by the anxious attention bestowed upon them, it is hoped that they may be saved future suffering, prevented from propagating the complaint, and rescued, for useful work in society. Thanks to Professor *Edvard Welander*, Sweden is here doing pioneer work in this regard.

Associations and individuals who clothe, feed, and provide healthful care for scrofulous and tuberculous children, or summer resorts in the country at vacation colonies, for children or young persons in need of them, are found in such great numbers that it is simply impossible to name or enumerate them all.

To the blind, deaf-mutes, deformed and neglected, public and private charity extends a helping hand, by bestowing home protection, upbringing and maintenance, partly free of charge, and in part at charges that must be considered as remarkably low.

There are training institutions, schools, working homes, asylums, and nursing homes for idiots and imbeciles.

Refuges have been organized for the degenerate and such children as suffer from depravity, where the young unfortunates may obtain possibilities of betterment, by means of orderly work and good teaching, and where all efforts are directed to restore to the community those lives which without motherly care and protection would lapse into viciousness and crime.

Many of these institutions have already been so well tested and organized that their advantages for society is known and acknowledged; others again are still in a relatively experimental position; but, wherever work is done in the service of protecting children, it may be asserted without exaggeration that an honourable and serious effort is going forward to do the most and best possible for the good of the nation and the benefit of the "land and people" of Sweden.

See also the section entitled: "Care of the Needy and Destitute."

Swedish National Anti-Tuberculosis Association.

The **"Svenska Nationalföreningen mot Tuberkulos"** (The Swedish Anti-Tuberculosis Association) was founded in 1904 for the purpose of combating consumption as a national disease. President is *H. R. H. the Crown Prince.* The number of members on Dec. 31, 1913 was 18 853 of whom 11 804 were attached to one of the branches in the provinces, the remainder direct to the National Association. Its revenues, in addition to members' fees and donations, proceed from the sale of so called "välgörenhetsmärken", "charity stamps" and of (artistically decorated) telegraph forms for telegrams of congratulation. The net proceeds from the charity stamps from 1904—13 amounted to 549 904·47 kronor and from the telegram-forms 1912—13 to 52 241·09 kronor.

One of the objects of the Association is to disseminate information concerning tuberculosis. From 1904—1913, altogether 1 326 lectures have been delivered by medical men sent out for the purpose, to about 201 400 listeners. An exhibition is arranged in Stockholm and demonstrations on the subject are given every week. The number of visitors from 1906—13 was 74 959.

A quarterly with a circulation of 20 000 copies is published, and in addition a score of brochures respecting the movement are distributed.

Scholarships are awarded to doctors and nurses for studies in sanatoria, and courses for the training of nurses in dispensary work are arranged.

It was from the National Association that originated the proposal to appoint the Royal Committee that set on foot an investigation into the entire tuberculosis question, and whose proposals eventually elicited a generous subsidy from the Riksdag towards the organization of the care of consumptives. The Association itself owns a few sanatoria, a country colony for able-bodied consumptives, dispensaries and a home for children. It maintains a dwelling-house in Stockholm for working people whose lungs are affected, but who have healthy children. By erecting Hälsan, an establishment in Neder-Luleå parish, for experiments in social hygiene, the Association endeavours to diminish the spread of the disease in that parish and to study the best methods for an effective warfare against the complaint when it appears in country districts.

Healthy children menaced with hereditary tuberculosis are taken in hand and boarded out in many provinces at the Association's expense.

Exhaustive investigations have been set on foot into the occurrence of the complaint in certain parts of the country and among workers in certain trades.

As a sub-section of the International Anti-Tuberculosis Association the Swedish society keaps up the connection between the interests of foreign countries and those of Sweden in the warfare against tuberculosis.

Eugenics.

Interest for eugenic problems has been steadily increasing in Sweden during recent years: they are debated warmly in print and on the platform, and people begin to consider a number of social questions first and foremost from this point of view. No small degree of the credit for this must be attributed to the temperance movement, which, though at times somewhat one-sidedly, has emphasised our responsibility to the coming generation, and the necessity for strong measures to avert the danger of the degeneration of the race. These points of view have begun to have weight even in legislation, e. g., in the Acts relating to the employment of children and women in industrial labour (1900 and 1911), and in the preliminaries now in progress for the reform of the marriage laws, authoritative experts have been referred to for expressions of opinion based upon medical and eugenic considerations which ought to carry weight in the matter.[1]

The more attention is directed to the necessity of effective safeguards for public hygienics, the clearer becomes the need for a deeper examination of the laws of biology, which affect heredity and variation, etc. Swedish scientists have taken an active part, too, in the diligent investigations now being pursued by all civilized nations in this department. We will merely mention here the great work published in 1913 at the public expense by Dr *H. Lundborg*, docent at Uppsala University, "Medizinisch-biologische Familienforschungen innerhalb eines 2 232 köpfigen Bauerngeschlechtes in Schweden (Provinz Blekinge)". Sweden offers especially favourable conditions to investigators of race biology of that kind, since it possesses better parish registers than any other country in the world; its official statistics are good, and its people is a comparatively pure race, with one speech and one religion, its population is not particularly dense, and syphilis is comparatively uncommon in rural parts, by which one of the sources of false conclusions is removed. With the aim of promoting research in this department, distributing information on allied questions, and "supporting

[1] It will be of interest to point out here that, in 1757, a prohibition had already been promulgated in Sweden against mairrage for "such as suffer from true or idiopathic epilepsy". The law is still in force, but its efficacy seems not to be remarkably great on account of the difficulty of administering it.

scientific efforts for the physical and mental health of the coming and future generations" the Swedish Eugenic Society (Stockholm) has been at work since 1909.

Preservation of Natural Scenery.

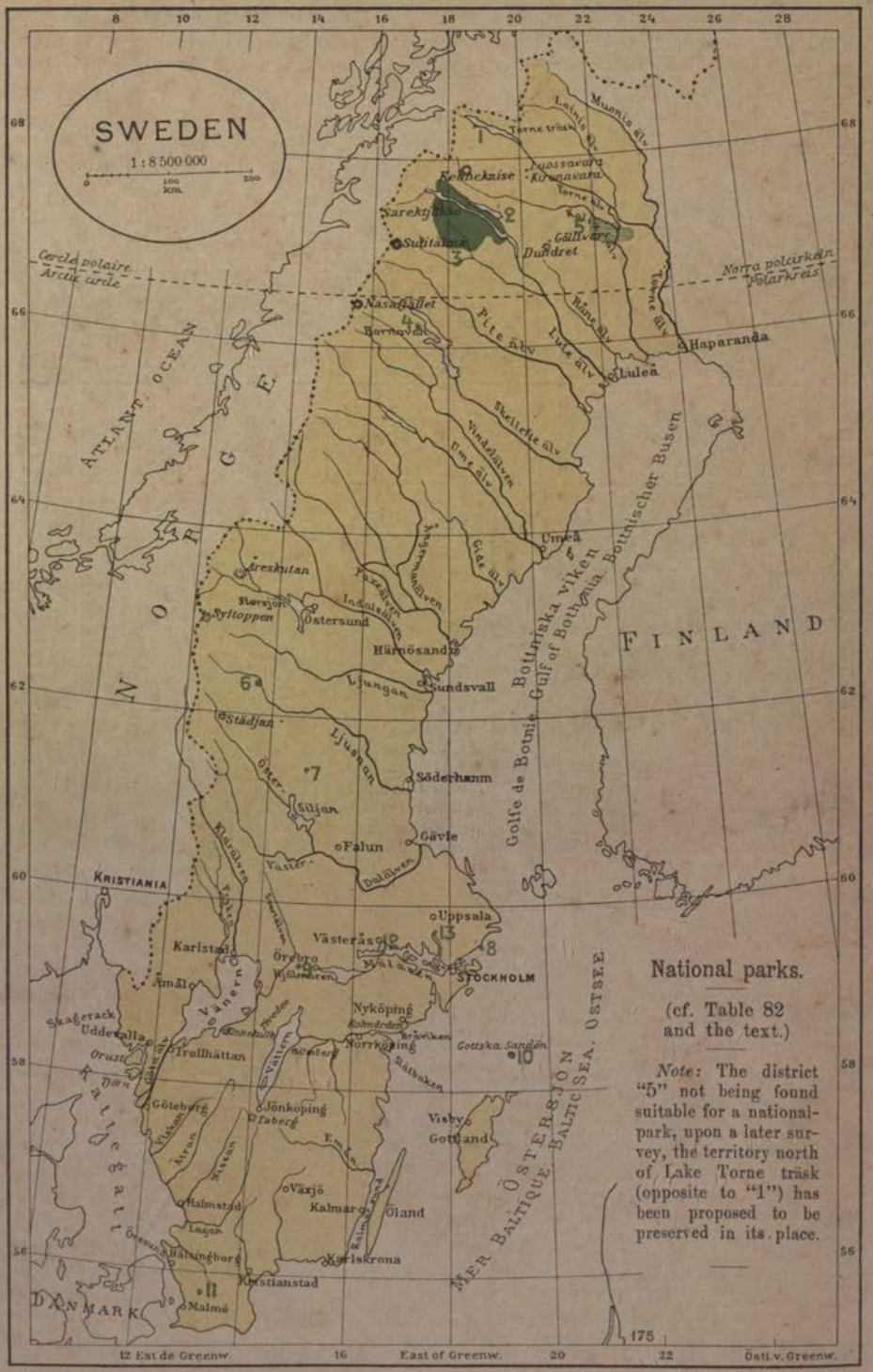
"In order to leave for future generations an actual picture of the country as it previously was", *A. E. Nordenskiöld* advanced, in an essay as early as 1880, the idea of preserving typical stretches of native Scandinavian scenery against the advance of cultivation to be "national parks". But the question first came really into prominence in 1904, partly through an explanatory lecture, given in

TABLE 82. *National Parks (on Crown-lands).*
(cf. appended map.)

No. on map	National park	Year when reserved[1]	Locality	Character	Approximate size in hectares[2]
1	Abisko national park . .	1909	län of Norrbotten (Lappland)	mountain glen with rich, high northern vegetation	5 000
2	Stora Sjöfallet national park	1909	»	sea and river district with falls and cataracts	150 000
3	Sarjek national park . .	1909	»	mountain piles with glaciers	190 000
4	Peljekaise » » . .	1909 | 1913[3]	»	high northern leafy meadows and mountain	14 600
5	Suorsa or Rissa national park[5]	1909	län of Norrbotten (Västerbotten)	primaeval forest	.[4]
6	Sonfjället national park	1909	län of Jämtland (Härjedalen)	mountain	2 700
7	Hamra » » .	1909	län of Gävleborg (Hälsingland)	primaeval forest	20
8	Ängsön » » .	1909	län of Stockholm (S. Roslagen)	archipelago with wood	70
9	Garphyttan » » .	1909	län of Örebro (Kilsbergen)	wood, meadow, geological formations	109
10	Gotska sandön national park	1909	—	drift sand	35
11	Eslöv national park . .	1913	—	terminal moraine	.
12	Åholmen (given to the State 1913)	1913	län of Västmanland (in Mälaren)	foliage and park pasture	.
13	Uppsala University nature park (at Vårdsätra) .	1912	län of Uppsala (near Mälaren)	foliage	5

Note. The Riksdag, in 1914, decided to have an investigation made as to the suitability of preserving the isle of "Jungfrun" (in the Strait of Kalmar) as a national park.

[1] Limits have generally been defined later. — [2] Figures for area generally approximate. — [3] 200 hectares reserved in 1909 were increased in 1913 to 14 600. — [4] Boundaries not yet fixed. ["A district of suitable dimensions in Suorsa or Rissa Crown-lands." (The locality is only approximately given on the map.)] — [5] Recent investigations have shown, however, that in this district no suitable area for a national park is to be found. In its place, prof. Lönnberg, the Government expert, has proposed to reserve a territory north of Lake Torne träsk, with a rank vegetation. (On the map: opposite to no. 1.)



National parks.

(cf. Table 82 and the text.)

Note: The district "5" not being found suitable for a national-park, upon a later survey, the territory north of Lake Torne träsk (opposite to "1") has been proposed to be preserved in its place.

IE 2483

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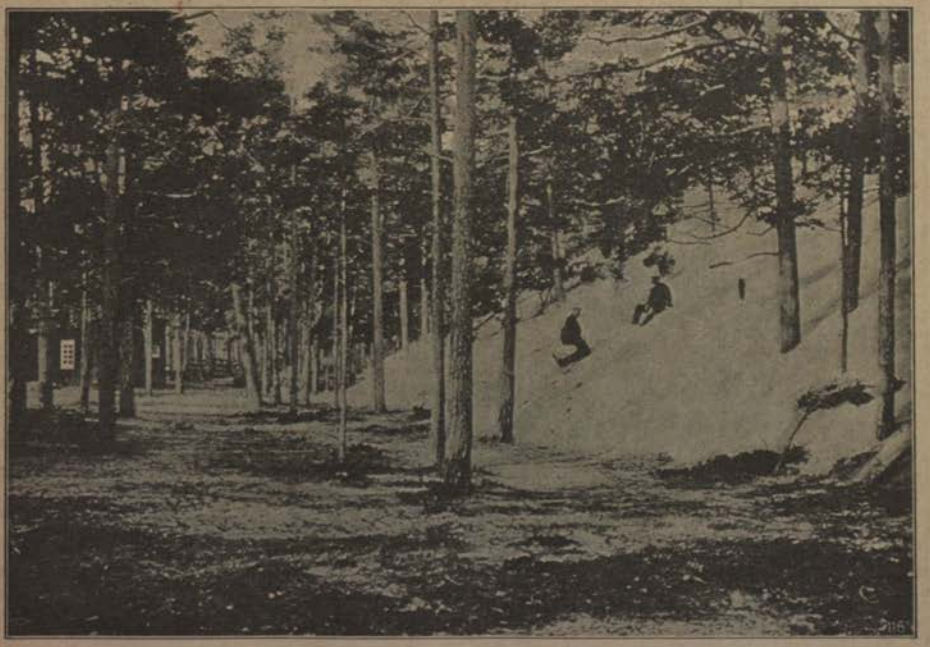
Stockholm before the Swedish Society for Anthropology and geography, by Professor *H. Conwentz*, of Danzig, the promotor of the modern movement for protecting natural scenery; and partly also in the Riksdag by a motion of *K. Starbäck*, who introduced a suggestion for precautionary measures for preserving the natural land-marks of the country. After thorough preliminaries, in which *E. Lönnberg* took a leading rôle, the Government, in 1909, brought in bills for legislation concerning typical pieces of scenery and national parks and for setting aside on Crown-lands a number of such spaces; these bills were approved by the Riksdag.



Drift Sand-dune (Gotska Sandön).

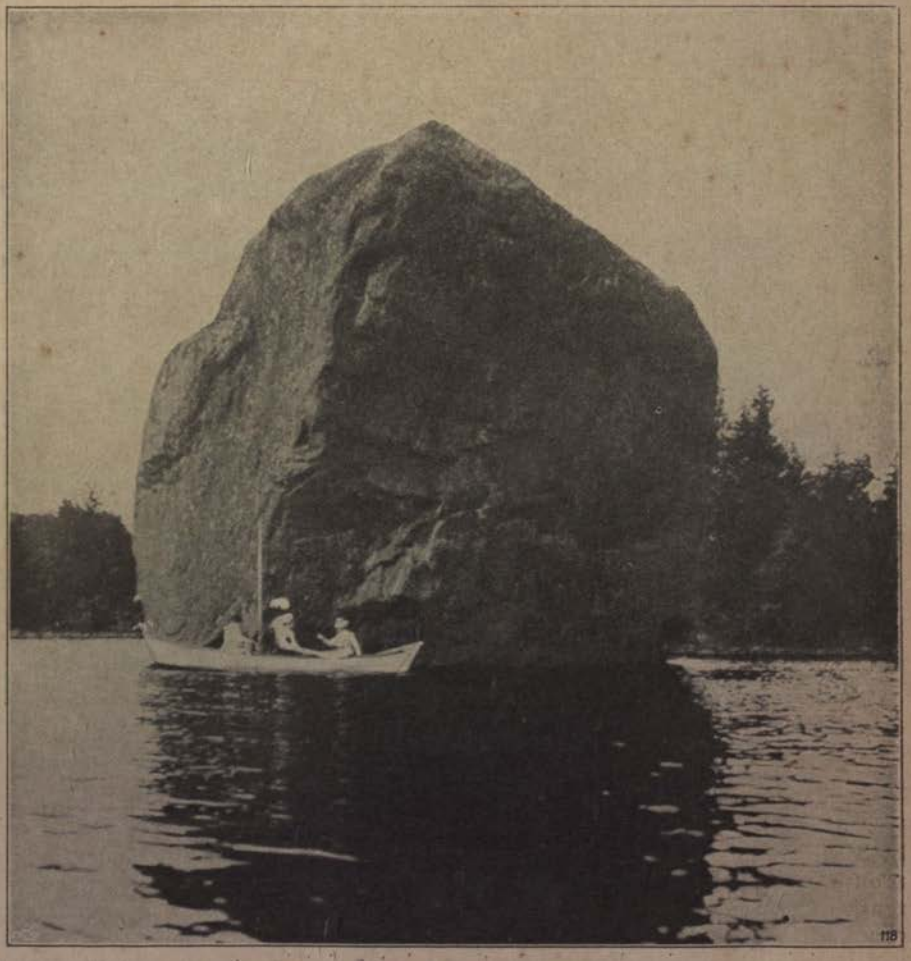
The reserved national parks give a fairly good idea of the types of scenery in Sweden. The enormous territory round the Stora Sjöfallet and Sarjek mountains contains one of the greatest waterfalls in the world and an extensive perspective of unimaginable beauty and glimpses of wonderment and charm. The mountain nature is subarctic with great glaciers; moreover various styles of forest are found, not only those that maintain an unequal contest with the winds of the mountains, but also such as enjoy a happy and abundant rejuvenation. Bears find a completely safe refuge here. Abisko offers a picture of typical mountain valley with exuberant vegetation, where some most uncommon specimens of arctic plants grow. A primaeval forest district of Norrland with its pine woods is to be found in the Hamra Crown-lands, while foliage is represented in the leafy meadows of Mount Peljekaise. We meet in the island of Ängsön a bit of the lovely scenery of Central Sweden's archipelago, and in the chalk formation of the hills Kilsbergen a slope of vegetation where Central Swedish leafy trees of diverse kinds grow as upper-foliage with undergrowth of the most beautiful bushspecies of the country, and

finally the Gotska sandön presents the most delightful drifts that occur in the country.

Within the national parks it is forbidden:

to destroy or injure fixed natural objects or their configuration, or to work mineral finds, or to carry away minerals;

to fell or injure growing trees, or to remove plants or portions of plants of any character, other than berries that are to be immediately eaten;



Erratic Block, called "Stora Olle", (Gävle Archipelago).

to hunt, capture, or purposely kill beasts of any kind whatsoever, except in the case of warding off an attack on life or property; or to remove from one place to another a dead or captured animal, or to injure or carry away eggs, spawn, or nests;

to be accompanied by dogs;

to build a house or permanent dwelling, or till any area, or to pasture cattle; or

for the purposes of advertisement to erect or introduce pictures, placards, inscriptions, or any other defacement.

Moreover, many districts belonging to individuals, with pieces of scenery worthy of being preserved, have, upon the representations of their owners, been declared inviolable as monuments of nature.

More local or solitary formations of nature, rare kinds of plants or animals, remarkable instances of geology, or specially magnificent trees, can be protected by the provincial government declaring it inviolable, after the Academy of Sciences has considered the question. Such protected memorials shall be recorded in the registers of the läns by their governors, and in those of the nation by the Academy of Sciences. Protection of the kind has already been provided in an appreciable number of instances.

As a proof of the impression made by the very idea of this movement, it may be pointed out that the Riksdag of 1913 expressed the wish that the Royal Djurgården may as extensively as possible be maintained as a natural park, and the earliest possible bill was asked for, to deal with the suitable limits of the district to be so maintained for ever. As this public domain is of enormous value, the decision of the Riksdag implies an immense appreciation of ideal values.

In the work of the movement the foremost place is held by the *Swedish Association for preserving natural scenery*, founded in 1909; its president, *L. Améen*, and secretary, *Th. Högdahl*, have done great service for promoting the spread of this idea. Among other things the Association publishes a year-book: "Sveriges natur" (Swedish scenery). Local work is done by *Associations for preserving natural scenery* in *Skåne* and in the *län of Skaraborg*, and by *Local Committees of the Swedish association*, formed in *Gothenburg* and in *Jämtland*.

The idea has enjoyed lively support and sympathy from the Swedish public, thanks to a diligent work of enlightenment, in which, among others, K. Starbäck (see above) and *R. Sernander* have had a prominent share. Of course, the chief champions are to be found among naturalists, but a respectable number of those who, by speech or writing-work have promoted the movement, is to be observed among authors, pressmen, artists, etc.

Protection of Animals.

Work in connection with the **protection of animals** has acquired a good deal of support in Sweden and has been considerably promoted both by the authorities and by the societies specially formed for the purpose. The first societies for the protection of animals were founded at the end of the sixties and beginning of the seventies of last century. There are now such societies in existence in a great many towns, in smaller communities, and in country districts. A particular form which the exertions for the prevention of cruelty to animals has taken is the so-called *communal boards for the protection of animals*, which are appointed by the rural districts, and which aim at supervising the care of animals in the particular districts. Since 1897 a union of the separate, independent societies has been in existence, under the name of "*De svenska djurskyddsföreningarnas centralförbund*" (Central Union of the Swedish Societies for the Protection of Animals), with which 142 of the 156 societies in the country and 149 of the animal protection boards are connected. The honorary president of this union is H. R. H. the Crown Prince. Several magazines advocating the protection of animals are published, among which may be mentioned "Djurvännernas tidning" (since 1889), which is the organ of the Central Union, "Djurskyddet" (since 1890), "De värnlösas vän" (a children's paper), and "Djurens rätt", which, in addition to questions connected with antivivisection also deals with the protection of animals. The societies also carry on their work

by means of distributing publications, by holding lectures and arranging exhibitions, and by appointing advisers and inspectors. Very considerable labour has been expended in favour of introducing more humane methods in slaughter houses. The total capital of the societies exceeds 1 million kronor.

K. P. Arnoldson.

Peace Movement.

The work for bringing about permanent peace in the world, or for the abolition of war and the substitution for it of international arbitration, has long found sympathizers in Sweden. As early as 1883, was formed the *Swedish Arbitration and Peace Society*, which is still in existence. Since 1911, also, has existed the *Swedish Peace Federation*, under the chairmanship first of Baron Carl Carlsson Bonde, and since his death of Baron Theodor Adelswärd; this Federation works chiefly by the free publication and distribution of pamphlets, which aim at providing reliable information about important facts and about actual problems encountered by the Peace Movement and in the domain of International Law. There also exist a few less prominent peace organizations. In 1892 was formed, within the Swedish Riksdag, an inter-parliamentary peace group, affiliated to the Inter-parliamentary Union; the Swedish State has made a grant to the Inter-parliamentary Union, as well as to the International Peace Bureau in Berne.

In Sweden, as well as in other countries, the Peace Movement has been given a powerful impulse by the munificence of *Alfred Nobel,* the celebrated Swedish discoverer of dynamite, who made an enormous bequest (more than 30 million kronor) for the advancement of culture, of which a fifth part was to be employed towards the furtherance of the peace movement. As is the case with the other portions of his bequest, the peace fund is administered by the Swedish committee, but the recipient of the Peace Prize, according to the directions of the testator, is to be nominated by the Norwegian Storting. In 1908, half the Peace Prize was awarded to the Swedish writer, *K. P. Arnoldson.*

In the matter of the theoretical treatment of the peace question, the writings of *G. Björklund* (about 1890) aroused considerable attention even in foreign countries.

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